

**RELIGION, SPIRITUALITY, CORRUPTION AND DEVELOPMENT:
CAUSAL LINKS AND RELATIONSHIPS**

by

James M. Leaman

B.S., Eastern Mennonite University, 1986

M.P.A., James Madison University, 1990

Submitted to the Graduate Faculty of
The Graduate School of Public and International Affairs in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

University of Pittsburgh

2009

UNIVERSITY OF PITTSBURGH
GRADUATE SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS

This dissertation was presented

by

James M. Leaman

It was defended on

December 10, 2008

and approved by

Dr. Paul J. Nelson, PhD, Associate Professor
Graduate School of Public and International Affairs

Dr. Nuno D.S. Themudo, PhD, Assistant Professor
Graduate School of Public and International Affairs

Dr. Richard A. Yoder, PhD, Professor Emeritus
Longacre Endowed Chair, Eastern Mennonite University

Dissertation Advisor: Dr. Louis A. Picard, PhD, Professor
Graduate School of Public and International Affairs

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Public sector corruption plays an important role in a nation's development, and many low income countries (LICs) suffer chronic bureaucratic corruption. While there have been numerous studies addressing both the causes and consequences of corruption, the full range of causes remains unexplored, and consequences are becoming understood in new light with fresh data and expanded linkages. Specifically, the impact of religion and spirituality on public sector corruption had not previously been adequately researched and documented, and tracing the role of corruption on living standards through business starts data provides a novel perspective on this link. This dissertation is a macro-level, global study of public sector corruption, analyzing the impact of religion and spirituality on public sector corruption, and subsequently on living standards. Essentially this is a study of ethics in public service, reviewed through the lens of one ancient concept (religion) and an emerging new construct (spirituality). The primary conclusions and contributions of this dissertation are that: (1) religion has a direct – and moderate – causal impact on corruption, (2) spirituality has an inverse – but weak – causal impact on corruption and (3) public sector corruption has an inverse – and strong – causal impact on business starts, economic growth and living standards. All three of these primary findings have social, political, and economic policy implications.

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ACKNOWLEDGMENTS

I am indebted to many friends, family members, and colleagues who encouraged me to enter this PhD program, and who helped me matriculate through it, and I would like to take this opportunity to offer thanks and appreciation. First and foremost, I cannot express enough thanks to Dr. Louis A. Picard. He became my mentor at the Graduate School of Public and International Affairs (GSPIA), he allowed me to work together with him on a number of his research and work projects, he was a gifted professor for two of my PhD reading seminars and, as chair of my dissertation committee, Dr. Picard processed the various steps of the dissertation and defense with proficiency and professionalism. His advice and support through the long journey of the program sustained my efforts and provided the encouragement I needed.

I would also like to thank the other members of my dissertation committee. Dr. Paul Nelson, in addition to serving as my academic advisor for the latter years of my studies, provided a welcomed human rights perspective on development and an expertise on the linkages between religion and development. Dr. Nuno Themudo offered a helpful institutional and societal perspective on development, and his feedback on the dissertation helped me recognize biases in my thinking and research. And finally Dr. Richard Yoder who, in addition to being an exemplary model of development-in-action, tested my theories and methods in ways that helped me strengthen several key areas of the research and writing. I would also like to thank other

faculty and staff at GSPIA for exceptional instruction or helpful administrative work on my behalf: Karen Brockington, Renee Kidney, Dr. Phyllis Coontz, Dr. Louise Comfort, Dr. Angela Foster, Dr. Siddharth Chandra, Dr. Tracy Henderson, and Dr. Rajen Mookerjee.

Attending classes, working on projects, and studying for comprehensive exams wouldn't have been nearly as fun, or successful, without my fellow students. I often felt humbled by their great wisdom and intellect, and I thank them for their collegiality and friendship, for teaching me much content and process, and for their patience. Special thanks to Felix Auyeung, Paul Danczyk, Salma El-Hag-Yousif, Nicole Fowler, Kilkon Ko, Stephanie Mlynar, Armando Jorge Rodriquez, Ann Rudnicki, Kimberly Schevtchuk, Eric Sevigny, and Rob Skirtich, among many others.

Several persons were instrumental in encouraging me to pursue this degree and assisting with helpful recommendations; I wish to thank Dr. Robert Hostetler, Dr. Merlyn Kettering, Dr. Douglas Skelley, and Dr. Richard Yoder. I would also like to thank my parents, Hershey and Norma Leaman, for instilling in me the value of education and life-long learning that was so influential in bringing me to this terminal degree. Finally, much thanks and appreciation to my immediate family – Lori, Jordan and Kayla – for providing personal support and encouragement, and enduring long hours and seemingly endless projects.

1.0 CHAPTER ONE: INTRODUCTION

Sierra Leonean award-winning journalist, Sorious Samura, recently produced a documentary about his undercover reporting in two African countries and his confrontation with public sector corruption. Samura first embedded himself in the shanty village of Kibera, one of Nairobi's largest slums, where he found that "endemic corruption affects every waking moment of Africa's poor" (Sydney Morning Herald URL, 2008). The poor must produce bribes for almost everything in life; for example, to receive care in a government-run clinic or hospital, to apply for a public sector job, to stay out of jail even when innocent of any crime, and even to erect a small one-room shack of sticks, mud and rusted tin. In his second location, Samura's home country of Sierra Leone, he documents cases where students need to bribe their government-paid teachers just to be taught, not to mention for the provision of water and electricity at home unless a bribe is paid (Insight News TV URL, 2008).

While public sector corruption generally has a disproportionate impact on the poor, it isn't only the poor who are affected; consider the following commentary from Youthink!, a group of young people at the World Bank:

One trillion dollars (\$1,000,000,000,000) is wasted globally **each year**, according to the World Bank estimates. Corruption decreases the amount of wealth in a country and lowers the standard of living. Corruption affects you even if you don't come into direct contact with it. For example, corruption:

- Discourages businesses from operating in a corrupt setting, reducing the overall wealth in a country.

- Reduces the amount of money the government has to pay workers and buy supplies, such as books, medicine and computers.
- Distorts the way the government uses its money so that the services it provides (schools, health clinics, roads, sewer systems, police forces, etc.) are worse than they would be.
- Allows those with money or connections to bend the law or government rules in their favor.
- Undermines trust in government.

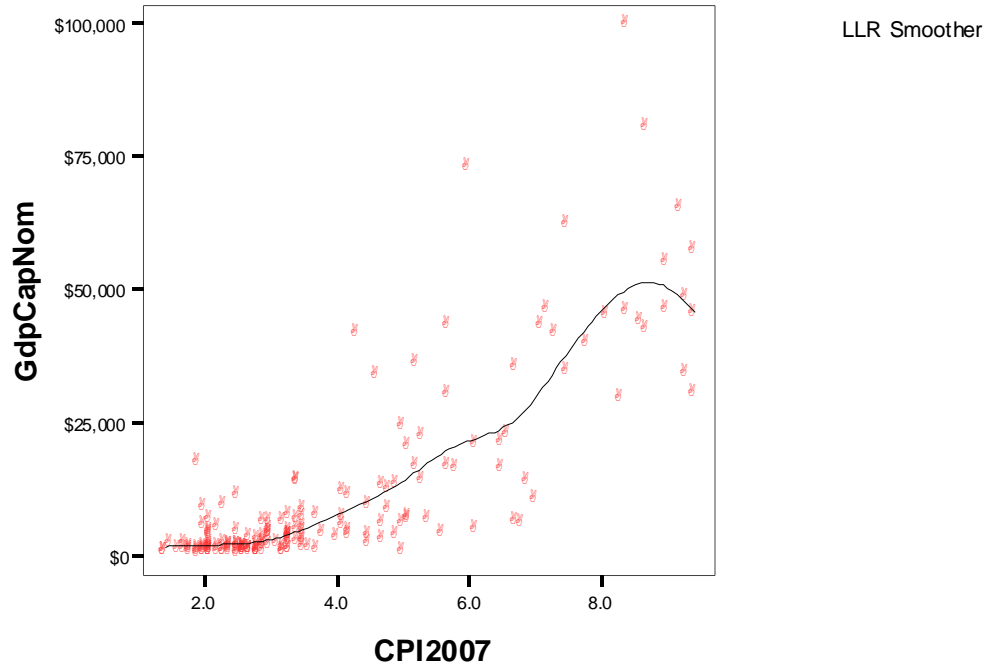
When countries tackle corruption they increase their national incomes by as much as four times in the long term, according to research. Business can grow by as much as 3% faster and child mortality can fall as much as 75%, if corruption is reduced (Youthink!, 2008).

As these stories suggest, there is a predictable relationship between corruption and living standards and conditions across the world. It should not be surprising that countries that struggle most with corruption also tend to have the lowest living standards, on average. What may be surprising, though, is how living standards and levels of corruption relate to each other across the full range of measures for each variable.

For this dissertation, corruption is measured as a national Corruption Perception Index (CPI) researched and published by Transparency International, the premier global authority on public sector corruption. Living standards can be measured in many different ways; however, for the purpose of this dissertation, it will be assessed by measures of gross domestic product (GDP) per capita, both in nominal and purchasing power parity (PPP) terms. Figure 1 below shows a graphic representation of the relationship between these two variables for the 180 countries for which reliable corruption data exists. A line of best fit has been statistically calculated using local linear regression (LLR) and overlaid on the graph of observed cases, and together these show interactions of the two variables across the full range of values for each construct.

Relationship between Corruption & Living Standards

CPI (2007) and nominal GDP/Capita (2007)



Sources: GDP data from CIA World FactBook
CPI data from Transparency International

Figure 1.1 Relationship between Corruption and Living Standards

What observations can be drawn from this simple regression scatterplot graph? First, there is a strong concentration of countries with both low per capita incomes and low scores on the corruption measure (indicating high levels of corruption). The fit line is upward sloping from the lowest measures, indicating that corruption standards and living standards rise together. Statistical analysis later in this study will consider causal effects, but for now the interest is focused on the big picture of how each variable moves in relation to changes in the other variable. At the lower left-hand corner of Figure 1 there appears to be a threshold at a CPI

measure of 2.5 where the line of best fit shifts from an arithmetic rate to a geometric rate of increase; however, the observations are fewer in number and begin to scatter further from the mean, whereas cases below 2.5 are clustered more closely. As corruption standards improve, incomes appear to rise at a geometric rate until another threshold is reached at a CPI measure of about 7.5, after which the *rate* of increase in incomes begins to slow. This is consistent with the economic law of diminishing marginal returns; as more and more corruption is purged from public sector activity, there comes a point where further action becomes more costly, while also offering less value in return. Above the CPI value of 7.5 the rate of increase in per capita incomes continues to decline until another threshold is reached at 8.5, after which incomes appear to decline as further advancements are made toward minimizing corruption.

While there are too few cases at the upper range of the CPI index to statistically predict consistent outcomes with high confidence, this precipitous decline in incomes above the CPI measure of 8.5 is also consistent with the law of diminishing marginal returns. It is much more difficult and costly to remove the last unit of corruption than the first, and it's more costly and difficult for each additional unit removed. Furthermore, the return on the investment of removing corruption declines as each additional (marginal) unit of corruption is eliminated. Could it be that there is an ideal level of corruption that has now been exceeded by 11 countries (CPI scores above 8.5) in 2007? If maximizing per capita income – as a measure of living standards – is the ultimate goal, then the data in Figure 1 supports the assertion that the 11 least corrupt countries have eliminated too much corruption at the expense of living standards. However, living standards can be measured in many different ways, and perhaps there are values that define living standards in some societies that grow less connected to income above certain levels of wealth and affluence. For example, it might be more valuable for a citizen of Denmark

(least corrupt in 2007) to enjoy trusted relationships and interactions with their public sector than to have a few more Kroner (Danish Currency) in their pocket.

Some of the life values that are less income-dependent are molded and shaped by influences of personal faith, religion, and spirituality, and these in turn impact the ethical decisions that determine personal responses to corruption activities or temptations. The research of this dissertation demonstrates some very interesting relationships between religion and corruption, spirituality and corruption, and between corruption and living standards, across a wide range of cases in the world today. This research project contributes to an expanded base of knowledge and understanding of these important aspects of life and development. The focal point for this dissertation is public sector corruption, with primary attention paid to the relationships of religion and spirituality as contributing influences on corruption, and with secondary observation of corruption as one important contributing influence on economic growth and living standard and conditions. Figure 2 below shows the broad parameters of this study.

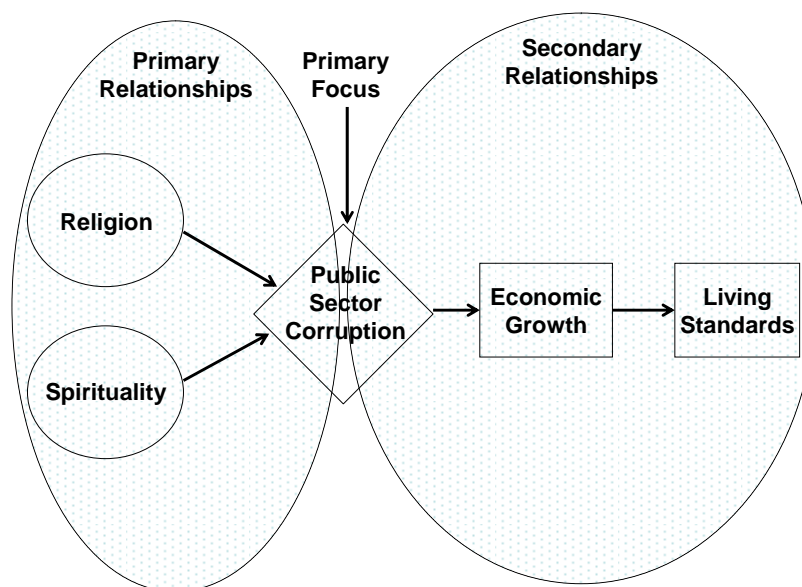


Figure 1.2 Graphic Representation of Broad Parameters of Dissertation

1.1 PURPOSE AND OBJECTIVES OF THE STUDY

Matters of spirituality and religion had historically most often been subsumed within the broader concepts of social or cultural capital and were rarely singled out for focused analysis in development research (Malloch, 2003). Within the past decade, however, these concepts have been gradually drawn out in several directions and together form a new and expanding body of literature, research, and understanding. This study aims to build on this growing awareness by analyzing the interaction of *spirituality* and *religion* on public sector corruption, while also contributing to the differentiation between the two concepts.

As a relatively new field of focused research, the concept of *spirituality* faces challenges of both scope and definition (Bregman, 2006; Iannaccone & Kirk, 2003). This research project addresses both of these challenges, first by contributing to the body of knowledge and research that help refine its *definition*, and second by expanding its scope to an area heretofore unexplored – corruption in the public sector. In doing so, this research contributes to our knowledge and understanding of both spirituality and governmental corruption, and by extension sheds light on one of the major obstacles to development and enhanced living standards at all levels of affluence.

Research and literature that has been focused on the link between *religion* and corruption is more developed than is the concept of spirituality, but new expansive data on various aspects of religion in a large sample of countries offers new avenues for study. This dissertation contributes to the knowledge base of religion, as it relates to public sector corruption; furthermore, it explores the related yet different influences on corruption from both religion and spirituality.

While it is generally understood that bureaucratic corruption is an impediment to development, we are still learning about new influences that make corruption evolve, endure, progress, or decline (Gould, 1983; Klitgaard, 1988; Rose-Ackerman, 1999; Jain, 2001). For example, we do not *fully* understand the impact of *religion* or *spirituality* on corruption, and this dissertation contributes to that awareness as an expanding body of knowledge and understanding of corruption. Additionally, there are some perplexing trends in the levels of religion and corruption among the sample of world cases, and this research was designed to bring further clarity to these anomalies that have policy implications for governments, civil society, and institutions of religion. This dissertation also identifies other variables that have an impact on corruption, either in tandem with religion and spirituality, or perhaps in ways that mask the impact of spirituality, religion, or other related variables. Information on other relevant variables has been compiled and analyzed in this study as supporting data for the primary independent variables *religion* and *spirituality*.

1.2 STATEMENT OF THE PROBLEM

For most acts of corruption, there is a decision made by one or more individuals to proceed with action that is morally and ethically wrong, illegal, and/or destructive to others. It is surprising that there is very little research on the dynamics of what happens within individuals leading up to such a decision, or at the critical point of deciding, or in the aftermath of having engaged in corruption or resisted its lure. What influences are at play at these three critical phases? What influences our understanding of right and wrong, and is it just an individual decision, or are there influences from an organizational culture, community, or a deity? Religion and spirituality are

two dimensions that inform, instruct, and guide morality and ethics, yet there is very little understanding of how these influences impact individuals at and around the points of decision when confronted with an act of, or an invitation or opportunity to engage in, corruption.

Believing that public sector corruption is a significant drag on efforts to improve living standards in low income countries (LICs), and that there is much more to learn about the impact of religion and spirituality on corruption, this research was designed to provide knowledge, understanding, and tools for actors in both the public and private sectors, with the ultimate aim of returning better performance from public sector bureaucracies and, by extension, more robust economic growth, and better results from efforts to improve living standards. The theoretical sequence that framed this research project was as follows:

1. Corruption plays an important role in impeding development.
2. Many low income countries (LICs) suffer chronic bureaucratic corruption.
3. The impact of religion and spirituality on corruption remains inadequately explored.
4. Gaining a better understanding of the interactive tendencies between corruption and religion and spirituality may offer helpful policy objectives.

1.2.1 Research Questions

The primary questions that drove this project were: How is public sector corruption impacted by the influence of religion; its level and state, and its expression? How is public sector corruption impacted by the influence of spirituality; its level and state, and its expression? How is religion impacted by spirituality, and spirituality impacted by religion, across all measures of public

sector corruption and other variables? Research hypotheses are defined in the Methodology section below, and key concepts of the study are defined in the following section.

1.3 TERMINOLOGY AND CONCEPTS

Spirituality can mean different things to different people, and in different contexts. One of the challenges with the concept of spirituality, as an emerging field of study, is that a focused definition is still being forged (Finke, 2003; Bregman, 2006). Due to this ambiguity across references, it seems important to clarify some terminology and definitions that this dissertation used and assumed, as well as to clarify relationships and linkages with closely related concepts.

At its very core, *spiritual* will be understood as “meaning, values, and fundamental purposes” (Zohar & Marshall, 2004). More broadly, “*spirituality* includes one’s beliefs, awareness, values, subjective experience, sense of purpose and mission, and an attempt to reach toward something greater than oneself [which] may or may not include a deity” (Wiggins-Frame, 2005). One of the defining characteristics that differentiate us from other life forms on earth is that all humans are considered to be spiritual beings, though with varying levels of spiritual maturity. This innate spiritual capacity is part of our humanness and it therefore transcends time, culture, needs and resources (Cashwell & Young, 2005). The *expression* of that spirituality, in both practices and experiences, shows diversity across these same continuums.

Spirituality and religion have often been viewed together as inextricably linked, if not in fact drawing reference to the same conceptions. However, recent advances in our understanding of the human brain and its functions has enabled researchers to draw new conclusions about human spirituality that are both connected to, and independent from, religious understandings

(Singer & Gray, 1995; Persinger, 1996; Ramachandran & Blakeslee, 1998). As a result, spirituality has emerged as an independent variable that can be both measured, as in *spiritual intelligence*, and attributable to economic and social transformation, as in *spiritual capital*.

Spiritual intelligence is a new tool used for measuring the level of spiritual maturity of an individual or organization (by aggregating individual scores). This follows in the pattern of intellectual or rational intelligence (IQ) that developed from the early twentieth century and emotional intelligence (EQ) that became popularized in the mid-1990s. New research and understanding emerged at the turn of this new century which suggested that humans also possess a third intelligence, spiritual intelligence (SQ). Spiritual intelligence is described as the intelligence of the soul, “the intelligence with which we address and solve problems of meaning and value, [and] the intelligence with which we can place our actions and our lives in a wider, richer, meaning-giving context” (Zohar and Marshall, 2000).

Spiritual capital refers to the value of spirituality for the potential to transform economic and social structures. This differs from human capital, which refers to the transforming potential from such non-spiritual elements as skills, experience, and knowledge (Malloch, 2003). By contrast, spiritual capital is concerned with the economic and social potential derived from an ethical framework based on a belief system that values needs and perspectives beyond one’s personal and immediate needs. The belief system within spiritual capital is often thought to be derived from religion, but that is not always the case, and this differentiates spiritual capital from religious capital – the transforming potential derived from religious beliefs, faith, and practice.

These three “capital” constructs, (human, spiritual, and religious), are closely related subsets of the broader concept of social capital, yet there is also a component of spirituality that stands firmly outside of the social capital umbrella. Francis Fukuyama (1995) defines social

capital as the ability of people to work together for common purposes in groups and organizations; it is an ability that arises from trust and from shared ethical values. Spiritual capital represents the *portion* of that social capital (trust and of shared ethical values) that arise from our spirituality, from our spiritual intelligence. Robert Putnam (2000), studying social movements in the United States, suggested that more than half of what we know as social capital is generated by the influence of religion and/or spirituality. Part of *spirituality*, therefore, may be considered a subset of social capital, but of significant size and influence to warrant specific focus and study. In addition, our definition of spirituality includes elements that motivate on an *individual* basis – and are therefore beyond the scope and range of social capital – and this component part of spirituality was the *primary* focus of this dissertation.

Teasing out the similarities and differences between spirituality and religion poses great challenge, as evidenced by the fact that these terms are often thought of as synonymous, or that one is a manifestation of the other. The major religions of the world offer a channel through which their members can find meaning and expression for their spirituality. Individuals may also find their spiritual meaning and expression outside of traditional religious experience. There certainly is a spirituality that derives from religion, but there is also a spirituality that is not necessarily derived from religion – what might be termed a *secular* spirituality. Even this secular spirituality may arise from religious faith among some individuals, but not necessarily so, and not at all in the case of other individuals. These differences have not been well-documented, especially considering the variance one might expect from various religious traditions. An additional emphasis of this project was to compile and review religious data to analyze together with data on spirituality to identify aspects of this differentiation.

To clarify further for the purposes of *this* study, use of the word *spiritual*, or the terms *spiritual intelligence* and *spiritual capital*, should not be *equated* with *religion*. Members of religious organizations often confirm and express their spirituality from within the context of their respective belief systems, but they can also form moral and ethical intelligence, and an interest in human and ecological sustainability from non-religious influences. Equally, non-religious individuals may attain high levels of spiritual intelligence and capital from influences that are both non-religious and religious. Religion, therefore, is an important influence on spirituality, and a source for some levels of spiritual intelligence, but in some cases religion is also known to have impeded spiritual intelligence and capital (Berger & Hefner, 2003).

Since religion and religious capital are closely-related concepts to spirituality, this project compiled data to operationalize two variables on religion, both as supporting information for the concept of spirituality, and to distinguish between the concepts within the context of this study. The definition of religion used in this study was belief, and faith, in God or the supernatural (Merriam-Webster URL, 2008). It should be noted that the relationship between *religion* and *corruption* has been previously researched within specific contained parameters of religion (for examples see: La Porta, et.al. 1999; Treisman, 2000; Paldam, 2001; Woodbury, 2004), and this component of the project aims to be complimentary to those studies and expand the knowledge in this arena, while also exploring new ground on spirituality. Essentially, this dissertation is a study of ethics in public service, but reviewed through the lens of an ancient concept (religion), an emerging new concept (spirituality), and regressed against actual performance indicators (corruption).

1.4 LIMITATIONS OF THE STUDY

At the outset of this dissertation, there are several limitations of the study that bear noting. In order to analyze specific relationships among variables and constructs, research must focus in on the specific areas in question, and this necessarily eliminates other relevant and related variables that clearly have impact on these issues when taking a wider-angle view. An example in this study is the recognition that many different factors combine to influence such a complex construct as public sector corruption, indeed too many to include in one study. This dissertation therefore focused in on the specific impact of religion and spirituality, recognizing that there are other important factors that remained outside the scope of the analysis.

This study employed statistical analysis on cross-sectional data, which is generally considered inferior to analysis on time-series data. While the databases of information related to the constructs of this study are being expanded every year, both in breadth and depth of time, there are currently insufficient quantities of data across both dimensions to make time-series analysis useful at this time, for these questions. Analyses on cross-sectional data are still valid and valuable and, in the sequence of research evolution, cross-sectional studies become the building blocks for time-series research once sufficient data are available.

There are additional limitations to the data employed in this study. First, the universe of countries in the world is relatively small, given the assumptions and power of quantitative analysis, and the number of cases/countries for which data exists is even smaller. This analysis meets requirements of sufficient sample size for a cross-sectional study by virtue of the number of countries for which data exists in relation to the universe of nations on earth; however, the current limitation is acknowledged, with recognition that future research with larger sample sizes will produce more robust results. Second, the quantity of data within the construct areas of

spirituality and spiritual expression is relatively small, and this limits the strength and confidence with which findings may be reported, and inferences drawn from the analyses involving that construct.

One final limitation noted here at the outset involves the use of causal modeling to test causal relationships among variables where experimental research with control groups is not possible. Causal modeling provides the best statistical tool to argue causality in social science research projects like this one, but it relies on a combination of logic, knowledge of the research and literature, data analysis, and even researcher intuition. The limitation is that there is more room for error in this process than is found in experimental research. Understanding these limitations is an important part of reading and interpreting the methodology, analyses, results, and conclusions of this study, and drawing inferences from the findings.

1.5 SIGNIFICANCE OF THE STUDY

Every act of corruption emerges from a single point in time when one or more individuals make the decision to engage in it. Very rarely are acts of corruption entered into innocently, accidentally, or naively; rather, the party or parties involved are usually well aware of the moral choice at hand. It is therefore astounding that so little research has been done to better understand the moral and ethical influences at play at and around that very critical decision point. What makes one bureaucrat resist the temptation of corruption, while another freely engages in acts that are knowingly wrong and illegal? What makes corruption worse in some countries and cultures than in others, and how does this correlate with national levels of religion, spirituality, economic growth, and living standards? The greatest significance of this study is new research

into the two broad moral influences of life – religion and spirituality – that impact our ethical grounding and to explore causal links with public sector corruption across a broad cross-section of countries. Data does not yet exist to explore these questions at the micro level of individual decisions, however this first-of-its-kind macro level inquiry into the causal linkages between the various constructs of this study provides the requisite context and background from which more focused research may emerge beyond the scope of this dissertation.

The largest collection of information on socio-cultural, economic, and demographic data is obtained and archived by the World Values Survey (WVS) organization. This dissertation uses the latest wave of data from WVS, and it is significant because the data are new, and fresh methods are employed to operationalize the constructs of this analysis. This is the first research project to apply this most recent data to constructs of religiosity and religious expression and assess their causal links with public sector corruption. Regarding spirituality, this is the first study to build constructs of spirituality and spiritual expression on a national level, notwithstanding subsequent analyses of these constructs with national-level corruption data. Furthermore, this study is significant because while links between religion and corruption have begun to be explored only recently, there remains very few published research projects, and none that operationalize the constructs in the same way that has been done for this dissertation. The results of this study also find quantitative differences between the constructs of religion and spirituality, and this differentiation adds further significance and refined definitions.

Many research projects of public sector corruption over the past half century have revealed it to be an exceedingly complex variable to study and understand. Past research on public sector corruption has failed to provide a comprehensive knowledge of all of its causes and consequences, and this study is significant because it adds to that knowledge as it addresses

religion and spirituality as a cause, and economic growth and living standards as a consequence. These identified consequences of corruption are not new in the research or literature, but there continues to be debate about causal direction between corruption and living standards. This study adds significance with a fresh review of the debate, and the data analysis provides further research and findings to expand the general understanding of this controversial question. Employing a new variable to represent an important component part of economic growth also lends greater insight into causal sequences between corruption and development.

1.6 STRUCTURE OF THE DISSERTATION

Chapter One introduces the research topic and outlines the overall purpose and objectives of the study. This includes a statement of the problem and research questions that emerge from the focal point of concern, and key terms and concepts used in this research project are explained and defined as necessary. The chapter also states both the limitations and significance of the study and concludes with a description of the structure of the dissertation.

The second chapter identifies previous relevant research contributions, as well as gaps in our understanding of the various concepts of this study, by positioning this analysis within the context of earlier research in related areas. The literature review begins with an appraisal of research on corruption, including history and definition, consequences, data, and three broad causes impacting individual decisions about whether to engage in corruption. The special linkage between corruption and economic growth and development is then explored, followed by the research and literature on the relationship of religion with corruption. The literature on spirituality is consequently examined, as it relates to public sector corruption and religion, and

the chapter concludes with a review of research on several other key variables related to understanding of the main variables of this study.

Chapter Three begins by delineating the research parameters, questions and hypotheses, followed by a review of the sources, reliability, and validity of the data used in this dissertation. Methods used for data compilation, organization and pre-analysis screening are explained, followed by a description of the research designs, and the methodology employed to test the research designs and investigate the research questions. Measurement reliability and validity are considered, as is an initial review of potential limitations of the design and methodology to help frame the capacity for this research project.

The fourth chapter highlights the critical statistical findings of the analyses and discusses relational implications. This traces the progression from simple to multiple regression analysis, to causal modeling. This chapter also includes an analysis of the sample, with implications for drawing inferences. The findings are also reviewed in light of acknowledged limitations of sample, data, research design and methodology, and the final section of Chapter Four revisits the research questions and hypotheses, drawing overall conclusions for each hypothesis.

Chapter Five summarizes the broad-level findings and policy implications of the analysis and conclusions drawn from the research findings. To provide further clarity to the stated results and implications, a brief section highlights what the findings reveal versus what they do not reveal. There is also a careful examination of cases that do not fit well with the overall data, analyses, or findings, with discussion of factors that may lead to the observed anomalies. These, and other outcomes of the dissertation, are analyzed to identify remaining gaps in the research arena, and specific questions are identified as fertile ground for future research. The chapter's

concluding section brings together and summarizes all parts of the dissertation and reviews the major findings of the study.

2.0 CHAPTER TWO: LITERATURE REVIEW

This chapter reviews the literature related to the research concepts and questions of this project, both to provide background and context for the dissertation, and highlight the research gaps that this analysis is designed to help fill. The literature review is an important component of this project in that it grounds the problems, questions, concepts, and analysis of this study in the research of the relevant fields to date. This process also helps define the boundaries of this study by documenting the literature at, and immediately beyond, the margins and parameters of the dissertation research. The literature review contributes to a better understanding of the research topics and the formulation of the problem and research questions. Commentary through various sections of the review is utilized to tie various concepts and topics into a cohesive portrait relevant to the key research questions of this study. In addition to identifying seminal works, intention was given to exploring the research and literature outside the North American mainstream context. In an effort to provide objectivity in the literature review, effort was also made to include multiple perspectives, where relevant, without prejudicial filtering.

The literature review has been organized by specific areas of research, as it relates to the areas of interest in this study. This begins with a broad but limited review of corruption and then specifically how corruption may be related to economic growth and/or development. The next area of focus is on the two main independent variables of this study – religion and spirituality – and research related to their links with corruption, and also with each other. The concluding

section of this chapter summarizes the literature review, drawing together again the various stands of this study and providing rationale for the development of the research questions based on findings in the literature and research.

2.1 CORRUPTION

Many large volumes have been written on the subject of corruption, and there is too much literature to *fully* review for the purpose of this project. Rather, this section will review what is important for understanding the definition, history, and research trends within this broad field that provides context for this study. It should be noted again that this project is not aimed at corruption issues or concerns in the private sector; rather the focus will be exclusively on public sector corruption. Given that caveat, the definition that will be used is one offered by Todaro and Smith (2006, p.552), “Corruption is the abuse of public trust for private gain; it is a form of stealing”.

Corruption is as old as there are records of human activity on earth, and public sector corruption is believed to have emerged together with the establishment of collective action, organization, and administration (Hawkins, 2000). For many years, however, the documentation and literature on corruption had been mostly anecdotal and theoretical, and there were three main reasons for this. First, corruption is multifaceted and complex, often woven tightly into the fabric of culture, which is even more multifaceted and complex. This complexity has made it difficult to know how to quantify and qualify corruption, particularly across cultures and regions of the world. Second, while public-sector corruption is endemic in many contexts around the world, it is also considered immoral and unethical by most people, and illegal in all societies. As

a result, those taking part in actions of corruption have strong motive to keep those actions hidden from view, and this makes empirical documentation extremely difficult to obtain (Johnston, 2001). Third, corruption is a highly sensitive subject; one that often involves a charge or suspicion of wrongdoing and defensive posturing by those being investigated. Furthermore, this sensitivity extends to governments, in the case of public sector corruption, where the incentives are cast generally to downplay the possibility or even reality of poor management and/or control of the civil services; rather, governments have a political motive to present their work and responsibility in the best light possible. These three main reason, and others, continue to contribute to the challenge of fair documentation of public sector corruption.

2.1.1 Consequences of Corruption

While there is some disagreement on the various consequences of corruption, there is no such disagreement that consequences exist; corruption is not a benign entity. Some very influential writers in the 1960s, 1970s and 1980s theorized that corruption served some beneficial purposes, and a strong debate emerged as to whether corruption injects helpful grease or damaging sand to the wheels of government and growth (Meon & Sekkat, 2005). Klitgaard (1988), and others, later identified this period of uncertainty as having contributed to a constraining paralysis in fighting corruption in a number of key regions around the world. Contributing to the uncertainty was the knowledge that corruption acts differently in different government settings.

In considering the few least corrupt countries of the world, which also happen to be high-income countries (HICs), it is argued from an economic cost-benefit perspective that removing additional levels of corruption actually limits growth. Many casual observers are surprised to learn that eliminating all corruption is not in the best interest of society; in other words, “the

optimal level of corruption is not zero” (Klitgaard, 1988). Rather, the optimal level of corruption occurs where the marginal social cost of removing corruption (anti-corruption policies, programs and enforcement) equals the marginal social cost of the corruption itself (negative consequences from corrupt activity). Countries that succeed in removing more than the optimal level of corruption pay more to remove the corruption than that corruption would have cost society in terms of lost economic benefits; in this sense, leaving corruption at the optimal level is economically beneficial. However, this cost analysis appears very different for countries with high levels of corruption, because until they can purge corruption down to the optimal level, the marginal social cost of abating corruption will always be less than the marginal social cost of that level of corruption to society (Klitgaard, 1988).

While there was general agreement about the economic argument of the optimal level of corruption, there was still disagreement about the consequences, even for highly corrupt countries. One strand in the literature suggested that corruption offered a beneficial ointment to the ills of inefficient government. Colin Leys (1964) argued that additional perks or income from corrupt activities were in fact helpful supplements to insufficient official government wages in many LICs, and these perks were needed to attract and retain higher quality public officials. Nathaniel Leff (1964) suggested that corruption could act as a hedge against bad public policies, arguing that corruption is a form of tax evasion, and its use becomes a quasi-transfer of resources from public coffers to private hands. Another argument of Leff (1964) suggested that corruption added an element of competition to the market of public goods, in effect rewarding the most efficient buyer who was able to submit the highest bid. This was considered beneficial in terms of efficiency of allocation of scarce resources.

Both Leys (1964) and Leff (1964) were considering corruption in the context of low-income country governments, recognizing many of the challenges those countries faced in terms of bureaucratic inefficiencies, ineffectiveness, and inadequacy of resources. Huntington (1968) added politics and structure to these arguments by stating, “In terms of economic growth, the only thing worse than a society with a rigid, overcentralized, dishonest bureaucracy is one with a rigid, overcentralized, honest bureaucracy.” Huntington’s logic was that citizens confronted with bad governance were beneficiaries of corruption, if it allowed them to circumvent some of the ill-conceived and misguided bureaucratic regulations and processes. Along these same lines, Leys (1964), Bailey (1966) and Lei (1985) showed how corruption could help speed resolution of transactions in an otherwise slow and cumbersome official process. The influential voices in this strand of the literature were not necessarily advocates for corruption, but they suggested that in environments of poor governance, highly defective bureaucracies, and weak institutions that alternative (non-official, corrupt) processes helped compensate for these problems in ways that served the best interests of citizens and entrepreneurs.

The fact that the influence of this strand of the literature held traction for so long is testament to the complexity of corruption and its contextualization. There were certainly cases that could be pointed to as practical examples of corruption contributing positively for large numbers of citizens. As of this writing Zimbabwe is considered a good case in point. By nearly every measure of performance and fairness, the official Zimbabwean government is in disarray and nearly non-functional, and some have reported that the only way to get things done is to operate outside of the official bureaucratic process (IRIN, 2007). What this strand failed to accomplish, however, was to put forth a viable roadmap for the transition process from high corruption to low corruption, as circumstances warranted. Furthermore, critics of this strand

found reason to question the assumptions of process and corruption, even in countries with poor governance (Meon & Sekkat, 2005).

Perhaps because there were so many cases and countries in the 1960s that fit the parameters of poor functioning government, the counter arguments to the “corruption is grease” argument were tenuous at first, but gained strength over time. One of the early rebuttals came from Gunnar Myrdal (1968), who addressed the issue of speed in processing. He pointed out that endemic corruption could be the *cause* of slowness in the bureaucracy, rather than a helpful compensating feature, since causing delays is a well-known tactic of civil servants hoping to extract a bribe to move the process along. Furthermore, Shleifer and Vishny (1993) pointed out that the ability of a bureaucrat to speed up a process is limited by a hierarchical approval process, whereas the ability to slow a process requires just one person. They argued, as did Bardhan (1997), that corruption was more likely overall to slow bureaucratic activity than speed it up, even in inefficient and dysfunctional bureaucracies.

Kurer (1993) took on the argument that the perks of corruption help attract and retain higher quality civil servants by suggesting that the overall quality of services declines when corrupt public officials need to create new distortions to keep their actions and illegal income hidden from view. The argument that corruption adds an element of competition by rewarding the most efficient buyer was refuted by Mankiw and Whinston (1986) and Rose-Akerman (1997). They argued that the services offered by the highest bidder may not improve public welfare, and may actually be detrimental if shortcuts compromising safety allow them to secure the highest bid.

These arguments can rage indefinitely with each side supporting their case with theory, logic and real examples. This reiterates the complexity of corruption and governance and the

important consideration of contextualization of both place and time. Meon and Sekkat (2005) suggest that over time the “corruption as grease” argument has diminished as the “corruption as sand” argument has gained strength. While cases can be documented to show that corruption can be beneficial, when taken on the whole, the majority opinion today is that corruption is harmful (Nye, 1967; Klitgaard, 1988; Gupta, Davoodi & Alonso-Terme, 1998; Wei, 1999; Klein & Hadjimichael, 2003). But how is it harmful? There are many ways to classify the harmful effects of corruption; this review will consider four broad areas: political, economic, social and environmental.

If democracy is valued as an ideal political system, corruption is harmful because it works directly against the very principles and practice of democracy. When the government and public officials fail to serve the public interest at large, and are not held accountable for their actions, they lose legitimacy. This breeds political instability and Michael Nacht (1981) demonstrated with empirical evidence that corruption is a statistically significant predictor of regime change. Weak rule of law plays a dual-causality role in this process. First, rule of law is often weakened by corruption, and then corruption is able to flourish unabated within an environment of weak rule of law. Second, weak rule of law helps contribute to political instability because it breeds citizen discontent, and then it is compromised in its ability to suppress uprisings, making regime change more likely to occur.

The impact of corruption on the economy is perhaps the most researched consequence, and as that relationship is an important part of this project, a more thorough review is conducted independently in a later section. For broad purposes here, it can be argued that corruption robs efficiency (Rose-Ackerman, 1978; Wade, 1982; Klitgaard, 1988) and distorts incentives through rent-seeking behaviors (Bhagwati, 1982; Hillman & Katz, 1984; Klitgaard, 1988). Corruption

often results in the wasting or misuse of scarce natural and national resources, with economic consequences, through the incentive of kickbacks to government officials who oversee large investment projects (Hardin, 1991). Specifically in its impact on development, Rodriquez-Pose and Tijmstra (2007, p. 525) show how poor governance severely limits “the ability of governments to design and implement development strategies”. Corruption distorts trade with dual causality (Maddison, 1997; Barbier, Damania & Leonard, 2005), which in turn is known to impact economic growth (Dixon, 2000). Corruption is known to act as a regressive tax (Gupta, Davoodi & Alonso-Terme, 1998; Klein & Hadjimichael, 2003), trapping millions in poverty and misery (Transparency URL, 2008). It is also documented that corruption chokes off investment (Wei, 1999; Drabek & Payne, 1999; Schiller, 2008), one of the driving forces of macroeconomic growth. In addition, corruption stifles innovation and entrepreneurial activity that is needed to foster economic growth (Desai & Pradhan, 2003; Veracierto, 2008).

The social consequences of corruption are not only devastating, but they have long-term impact. Citizens lose (or fail to gain) trust in their government and the political system, which leads not only to frustration, but apathy (Wallace & Latcheva, 2006). The result is often a very weak civil society (Tendler, 1997) with weakened influence to demand change to representative and responsive government (Paul, 2002). In such a deteriorating spiral of events, many of the best trained, and brightest minds – those with the means to leave for a better environment – often emigrate to other countries, contributing to brain-drain (Transparency URL, 2008), which has further negative consequences for economic growth (Beine, Docquier & Rapoport, 2001).

Finally, the environment suffers more degradation in more corrupt systems because of the opportunities to “sell” exploitative use for personal gain (Lopez & Mitra, 2000; Welsch, 2004; Bulte, Damania & Lopez, 2007). Furthermore, corruption weakens rule of law, for reasons

specified above, and this weakens enforcement, investigation, and prosecution of illegal destruction of environmental resources (Pei, 2007; Transparency URL, 2008). The evidence, research, and literature are overwhelmingly one-sided on the verdict of the overall consequences of corruption. While there is a smaller area of the literature that points to corruption having a positive affect under certain specified conditions (Leys, 1964; Leff, 1964; Bailey, 1966; Houston, 2007), the majority view is that corruption yields mostly negative consequences in a number of ways, as classified above.

2.1.2 Data on Corruption

Just very recently, in relation to the long history of corruption, one organization has made what many believe to be a successful push toward quantifying levels of corruption across standardized criteria that make cross-country and cross-cultural comparisons possible. Transparency International (TI) was established in 1993 as a networked global civil society organization (CSO), and it's goals are to document and quantify corruption to build momentum for anti-corruption movements, to lobby governments to implement reforms, and generally to work toward eradication of corruption globally (Transparency, 2008). Soon after its establishment, TI developed an index of corruption and began adding countries every year, as well as for agencies within countries. Forty-one countries comprised the first annual index in 1994, and this list had grown to 180 countries by 2007, the last publication as of this writing. The index later became known as the Corruption Perception Index (CPI), and the name belies part of the limitation of this data. Since it is nearly impossible to verify corruption in action, by event or case, TI compiles its index by extensive survey data measuring respondents' *perceptions* of corruption. While this is an imperfect measure, the data and index provided by Transparency

International is well respected globally, and is generally believed to be as accurate as might be possible, given the nature of the subject (Wolfensohn, 2005). Furthermore, the TI CPI correlates highly with other independent measures of perceived corruption (Mauro, 1995; Easterly & LeVine, 1997, Ades & Di Tella, 1999) and with the size of the informal economy, “as estimated by Johnson et al. (1998)” (Treisman, 2000). Given this growing body of evidence, the CPI is proving to be highly reliable as a measure of national public sector corruption.

Until just recently the lack of reliable global data on corruption has meant that “empirical work has lagged theoretical development and the result has been an accumulation of theory” (Husted, 1999, p. 340). Most analyses were based upon anecdotal evidence (Myrdal, 1989; Huntington, 1989), and the few empirical studies that were done on corruption were case studies within a single country (Bunker and Cohen, 1983; Wade, 1985), or even more limited to a particular agency within a country (Dombrink, 1988). The recently published and growing CPI from Transparency International has suddenly provided the means for empirical analyses across countries and regions. The continuing limitation with this data, however, is that there is still insufficient time-series evidence and, since corruption levels change very slowly, “the dynamics of [patterns and causality are] still largely outside the realm of empirical analysis” (Paldam, 2001, p. 389). The CPI data do, however, provide excellent statistics on corruption to perform cross-sectional (cross-country) analysis, and that is the methodology employed in this project (this will be covered in greater detail in Chapter Three).

Many theories as to the causes of corruption have been put forward by researchers from many different disciplines. In their seminal handbook on corruption, editors Heidenheimer, Johnston & LeVine (1989) include contributions from writers from such diverse fields as economics, anthropology, theology, business, and political science, among others. Today it is

generally agreed that corruption is impacted by a complex web of factors (Treisman, 2000) that make it challenging to identify individual causes independent of other factors. Still, the growing body of knowledge and understanding of corruption continues to grow by expanding on old ideas, exploring new ones, and testing some of these complex interactions. The next section reviews the literature that aims to explain what many believe to be the most significant causes of corruption, though it is not assumed to be an all-inclusive list.

2.1.3 Causes of Corruption – Overview

What causes corruption to be so high in some countries, while so low in others? Why do public officials abuse the public trust for their personal financial gain more frequently in one country than in another? Why is the magnitude of corruption consistently larger in one country versus another? These are some of the questions that have been asked and addressed by researchers and organizations concerned with good governance. The literature in this area can be divided into three general areas which are also factors in the decision process at the point of every transaction: 1) opportunity to engage in corruption, 2) ethical and moral influences, and 3) an evaluation of risk versus reward. Reviewing the literature in these areas will demonstrate the cross-discipline influences involved, as well as how much of what happens today can be traced back to historical events and cultural norms.

2.1.4 Causes of Corruption – Opportunity

Setting aside for the moment the issues of risk vs. reward, and the ethical and moral influences that affect a person's decision to engage in corrupt practices, the first area of investigation will

be opportunity to engage in corruption. Most of the literature and research in this area has come from the business field, and specifically the subfield of management. A major watershed moment in management theory emerged in the late 1800s and early 1900s, led by the studies and writings of F.W. Taylor. His emphasis on division of labor around carefully planned processes (Taylor, 1911) became known as scientific management, and though the primary target for this technique was mass-production manufacturing, Taylor's ideas were taken up by management at all levels, and of all types of organization, including government (Hughes, 2004). The division of labor component of scientific management is a hallmark of government bureaucracies all over the world, with implications for discretion and opportunity to engage in corruption. By breaking down the full scope of a public transaction into multiple specialized component parts, each participating public official's opportunity to exact a bribe is minimized (though not eliminated), notwithstanding collusion with other public officials in the process. The integration of scientific management with bureaucracy was refined over time by Max Weber (1997 translation), who is considered by many to be the early authority on bureaucracy and society, and more recently by Barry Bozeman (1999) who contributed an updated perspective on the "set of trade-offs among politics, accountability and efficiency".

Accountability and supervision is another area to consider in the question of opportunity to engage in corrupt activity, and a related concern emerging from business management theory, especially after the specialization surge of scientific management, was the issue of "span of control", or sometimes referred to as "span of management". This structural technique concerns the number of employees reporting to a supervisor, which has the effect of determining the share of supervision that each subordinate receives, and thereby their opportunity to engage in corrupt activity. "Traditional views of organization design recommended a span of management of

about seven subordinates per manager. However, many lean organizations today have spans of management as high as 30, 40, and even higher” (Daft, 2008, p.311). Recent research suggests that span of control varies greatly across organizations and activities, and several key factors influence the effectiveness of different spans (Davidson, 2003). One such factor is the increasing use of technology in the workplace that makes it easier and cheaper to log work routines and track decisions and processes, and for supervisors to monitor the efforts of more subordinates, more effectively. Technology may be part of the explanation for why there exists such a strong correlation between corruption and per capita income. Low-income country governments have fewer resources to purchase and upgrade technology for use by public officials, which may impact negatively on the ability of supervisors to effectively minimize corruption within their divisions. There is very little literature addressing this very narrow niche topic, and it seems a worthwhile subject for future research.

The legal system is another issue affecting the opportunity for engaging in corruption, as well as the risk/reward question, which will be covered later. The two predominant legal systems active in the world today are the common law system, which developed in Great Britain and spread to most of her colonies, and the civil law system, which developed in continental Europe and spread to the colonies of those respective countries. La Porta et al. (1999) and Treisman (2000) found evidence that common law countries (with a history of British rule) are statistically less corrupt than countries with other forms and styles of legal system. There are some notable exceptions (Kenya, for example), but in large cross-sectional analyses, the relationship is robust. The part of the common law system that impacts opportunity to engage in corruption is intense adherence to procedure. Summing up this legal system and link with British rule, Eckstein (1966, p. 265) writes that the British “behave like ideologists in regard to

rules and like pragmatists in regard to policies. Procedures, to them, are not merely procedures, but sacred rituals”. This intense focus on rules and procedures provides not only a stronger “culture” of adherence to the law, but also more detailed documentation of activity and transactions that may provide evidence of wrongdoing. More paperwork, and other forms of documentation of public sector activity, increase the chance of corruption being uncovered, and reduce the discretion and opportunity to engage in corrupt practices.

2.1.5 Causes of Corruption – Ethics

Even if measures are taken to minimize the opportunity to engage in corruption, the possibility can never be fully eliminated, and governments must also rely on the integrity of their civil servants making personal decisions and judgments in the gaps between structural oversight and accountability. This next area investigates ethical and moral influences as a cause of corruption. What makes people demand, or submit to, a bribe when they know that action to be wrong or even illegal? One reason might be that they simply *need* the outcome that the bribe permits, though this aspect of the decision will wait until the next section with a review of risk vs. reward. This section will review the part of the decision that is influenced by knowledge of, and adherence to, right and wrong, or what is morally, ethically, and/or legally acceptable. Religion, culture, and spirituality are the main forces influencing these decisions, and though all three are intertwined, some of the major research efforts will be highlighted where it is deemed relevant for providing context for this dissertation.

In cross-sectional studies researchers have documented a clear link between religion and corruption (Treisman, 2000; Paldam, 2001), though the route of influence is not always agreed upon, and a number of different strands of research indicate different ways of operationalizing

the variable “religion”. One of the early writings on this topic was Adam Smith’s *The Wealth of Nations*, in which he predicted corruption would be lower in countries with more religious diversity, and this was substantiated in recent studies by Paldam (2001). While more religious diversity may cause greater political instability, the explanation in regards to corruption is that more diversity means more competition between religions and greater accountability (Smith, 1776; Paldam, 2001).

Another question that arises about the link between religion and corruption is whether the link is direct between the two variables, or indirect through economic growth. The impact of religion on economic growth was first put forward in the early 20th century by Max Weber (1905), and this idea was further developed throughout the last century (see Tawney, 1926 and Lal, 1998). The main thrust of this argument is that some religions place greater emphasis and “moral value in thrift, honesty and saving, condemning idleness and consumption” (Paldam, 2001, p. 391). These virtues, if adopted by large segments of society, would create and maintain conditions advantageous for investment and economic growth. In addition, persons on both sides of public service transactions would clearly know right from wrong and be less likely to subvert their religious values for gains through corrupt behavior. Weber (1905) further claimed that the protestant wing of Christianity was the most favorable kind of religion for capitalistic economic growth and prosperity, especially if there was also limited religious diversity to keep corruption in check. Paldam (2001) suggests that this religion-growth theory may be true, but is empirically unsubstantiated due to its “inoperational character”, though his research on both the direct and indirect links aims to bridge this gap to a limited extent.

Turning now to the direct link between religion and corruption, La Porta et al. (1997) were the first to find evidence that the *hierarchical* structure of religions correlates with

corruption, with countries that have more hierarchical religions also suffering higher levels of corruption. Treisman (2000, p. 403) explains one aspect of this link by suggesting that “religious traditions have often been thought to condition cultural attitudes towards social hierarchy”. Consequently, citizens in a country dominated by hierarchical religions would be less likely to challenge corrupt supervisors, officials, or government structures. An additional avenue through which religion may have a direct impact on corruption might remain from the traditional perspectives on how different religions interacted with the state. For example, mainline protestant denominations emerged from the Reformation movement, part of which was a direct challenge to the state, and state-sponsored religion. Treisman (2000, p. 403) postulates that protestant churches “may play a role in monitoring and denouncing abuses by state officials, [whereas] in other traditions – such as Islam – where church and state hierarchies are closely intertwined, such a role may be absent”.

While there are more than 4300 different faith groups documented in the world today (Adherents URL), it would be statistically cumbersome, and futile, to run analyses on all of these groups. Research studying links between religion and many other variables have therefore limited the number of religions in their analyses to the largest six or seven that comprise more than 95% of the world’s population (including nonreligious as one grouping). Paldam (2001) tested some of the theories of direct and indirect links between religion and corruption with new data and different religious divisions.¹ Using large cross-sectional data on 100 countries, and controlling for GDP per capita and inflation, he first analyzed at the individual impact of seven major religions (Christianity, Islam, Hinduism, Buddhism, Oriental, and Tribal) on corruption.

¹ Paldam (2001) was actually interested in the impact of culture on corruption, but used religion as a proxy for culture, thereby providing direct empirical analysis of religion and corruption.

The analysis showed slight negative impact on corruption (meaning countries with these religions exhibited higher levels of corruption) from the religions of Islam, Hinduism, Buddhism, and Tribal, though the results were not significant. Christianity and Oriental religions showed slight positive impact on corruption, but these results were also not significant. However, when Paldam (2001) split Christianity into two groupings, he found statistically significant results. The dividing line for this split is the Reformation, with Christian denominations emerging from the Reformation movement on one side of the split, and faith traditions that held onto the status quo through the Reformation on the other side. Catholicism, Orthodox, and other “old” traditions within the Christian faith make up the Pre-Reform grouping, while Anglicans and the many Protestant denominations make up the Reform group. The results from this analysis were stunning, showing that “Reform-Christians (Protestants and Anglicans) are about three points less corrupt than Pre-Reform Christians (Catholics and old Christians) at the same level of economic development” (Paldam, 2001, p. 402). Furthermore, the estimate of a small negative impact of Pre-Reform Christianity, and the large positive impact of Reform Christianity were statistically significant. The three point difference between these groups is considerable, given that the corruption index has a range of only ten points. The Paldam (2001) study would appear to confirm the sentiment of Max Weber, who wrote extensively on the value of Protestant ethics in the role of religion creating social change. On one hand this difference between Reform and Pre-Reform Christianity makes sense because the Reform movement broke away from the established church partially due to what advocates deemed as corruption in the institution of the church, and between the institutions of church and state. On the other hand, however, the Reformation took place about 480 years ago, and it is hard to imagine that the significant

difference we see today between these two Christian traditions is primarily because of these differences so many years ago.

This study will not attempt to replicate the comprehensive analyses of Treisman (2000) and Paldam (2001), though their findings provide a contextual foundation on which new analysis with new variables may be built. Their studies also raise some interesting questions. For example, all of the major religions of the world embrace the teachings and values of honesty, trustworthiness, and integrity (Templeton, 2002). In addition, all the major world religions teach the Golden Rule of “do unto others as you would have them do unto you” (Karakas, 2006). As these values and virtues directly impact decisions of right and wrong, wouldn’t we then expect to find much lower levels of corruption in countries that are also highly religious – and regardless of which religion? Perplexingly, this dissertation finds the opposite effect when religion is viewed from personal experience, and La Porta et al. (1997), Treisman (2000), and Paldam (2001) find evidence that the particular religion seems to matter, and Paldam further discovered that different traditions within one religion (Christianity) also seems to matter, significantly.

In this study religion was explored in several different ways. In addition to testing the linkages between various religions and corruption, as a way of triangulating the meaning of findings in other areas, the main emphasis of this study was to operationalize “religion” and “religious expression” from recent individual responses provided by the World Values Survey. The purpose was to dig deeper into individual beliefs, personal faith, and expressions that flow from that faith and belief, rather than relying on an affiliation with some religious institution that may or may not include a personal faith.

Culture also plays a role in the ethical and moral choice about whether to engage in corruption. The literature on culture is large and diverse, but for the purpose of this discussion

relating to corruption, this section will key on the sub-areas of loyalty, familism, nepotism, and achievement motivation. Loyalty, familism and nepotism may be expressed independently, but as it relates to corruption there is often a cascading sequence involving two or three of these issues. Familism is the term for a “social pattern in which the family assumes a position of ascendance over individual interests” (Merriam-Webster URL). Lipset and Lenz (2000), in Harrison and Huntington’s seminal volume *Culture Matters*, suggest that the underlying theory of familism came from the theorizing of Plato, who identified the parent-child relationship in particular that lead to preferential treatment. This theory was put to empirical testing by Edward Banfield (1958) to explain why a particular region in Italy was poor, relative to other regions of the country. “The reason, they said, was not government neglect or poor education, but culture. People in this area were reluctant to cooperate outside of their families” (Wilson, 2003, p. 64). Indeed, Harrison (1985) found evidence of high corruption in cultures with strong family ties, causing him to conclude that “the extended family is an effective institution for survival but an obstacle to development” (p. 7). Lipset and Lenz (2000) used data from the 1990 World Values Survey to build a scale of strength of family ties to compare against corruption data. They found a strong relationship between their familism scale and the CPI, even when controlling for per capita income. This relates to the ethical decision of whether to engage in corruption in cases where family members are involved. In other words, a public official may consider the notion of helping a family member to be more ethical and moral than abiding by rules or procedures that would otherwise restrict such assistance. This may be culturally-conditioned in some societies, and becomes especially detrimental to corruption levels in cultures where ties remain strong through several layers of extended family.

In some cultures loyalties are extended even beyond the reach of extended family to any member of a person's clan or tribe. Ethnicity continues to dominate relationships and loyalties throughout much of the African continent, and this has implications for how public services are awarded and distributed. African writer, Daniel Etounga-Manguelle (2000), highlights two foundational principles that present a cultural clash between traditional African social norms and bureaucratic structures transplanted from European molds. The first is the notion that a person's individualism is meaningless outside of its place within the broader community, including not only immediate and extended family, but also fellow tribal members, even those not personally known. Nearly all of the bureaucratic structures in place in the world today were designed in societies that place more responsibility on the individual, and they rely on public officials to make decisions unencumbered by loyalties to any one community. In other words, the bureaucratic structures require public officials to be individualistic, and individually responsible, and these values are actually suppressed within many traditional African cultures (Etounga-Manguelle, 2000).

The second value that Etounga-Manguelle identifies as a point of bureaucratic contentiousness in Africa is the overall perspective on the purpose of life, expressed as a strong preference for people over process. "Friendship comes before business; it is impolite, in a business discussion, to immediately go to the crux of the matter" (Etounga-Manguelle, 2000, p. 72). There is a powerful need to engage in conversation before any process is undertaken toward the purpose of the transaction in order to gain a personal connection. In addition to contributing to bureaucratic inefficiency (from a Western perspective), this pattern also reveals community and tribal affiliations of all parties involved, which then has bearing on decisions about priority of action and services rendered.

Religion also plays a role in conditioning one's sense of loyalty. Sociologist Emile Durkheim (1912) developed the theory that religion is the one aspect of society that gave community its social shape. Treisman (2000) also argues that religion in some cultures becomes the lens through which individuals determine loyalties to others, thereby determining right and wrong through religious conviction and social norms. In some cases this is in opposition to secular laws, rules, or procedures, and may then be tagged as high levels of corruption when viewed through a lens of different cultures, religions, and familial ties.

In addition to the aspects of familism, tribalism, and loyalty as potential causes of corruption, a second area of literature explaining cultural factors is achievement-motivation. This literature dates back to sociologist Robert K. Merton (1957) and his writings on means vs. ends. Merton explained that in all social systems, and cultures, people not only seek to achieve, but they also encounter strong societal pressure to succeed. For the fortunate ones in society who are afforded opportunity to achieve their goals (ends) through socially acceptable means, this represents conformity to, and success in, the social system. However, in many countries there are large numbers of people who have high motivation and societal pressure to succeed, but very few opportunities (means) to achieve those ends. This creates a strong incentive to subvert socially acceptable means (rules, procedures and laws) in order to obtain socially acceptable ends. Furthermore, cultures vary considerably in both the level of achievement motivation, and access to opportunities to achieve. Merton (1957) hypothesized, then, that cultures with high achievement motivation and low access to opportunities would rank high on the corruption meter. Lipset and Lenz (2000) set out to empirically test Merton's theory using early 1990s achievement motivation data from the World Values Survey, and corruption data from Transparency International. They found the relationship robust, and statistically significant, but

it raised further questions about the role of affluence and prosperity. While countries with relatively low achievement motivation, and relatively high access to opportunity, have the lowest corruption scores, they also tend to be higher income countries (HICs). This holds logic in that citizens of HICs will generally have better access to opportunities to succeed, and as they are already relatively affluent, they will have less motivation to achieve higher levels. Even with these questions of reverse causality, the strong linkage helps explain why it is so difficult for low income countries to make considerable strides to minimize corruption, and how these cultural factors help explain the ethical decision making of individual public officials.

Spirituality is a significant influence in decisions on whether to engage in acts of corruption, and yet there is very little direct research and literature in this area. One reason for this omission is that the concept of spirituality had, until recently, been subsumed within the general principles of religion and religious faith. The emergence of spirituality as a part of life in its own right opens new possibilities for understanding the process of decision making, including the critical decisions of public officials. Indeed there is some overlap between spirituality and religion, and since there is a good start on research and literature linking religion and corruption, there is also some indirect research linking spirituality and corruption. However, given that there is a sizeable portion of the conception of spirituality that falls outside the bounds of religion, this study will add to a very thin research base on this subject vis-à-vis public sector corruption. Several influential writers in the field (see Gyatso, 1990; Phipps, 2001) explain the transformation of spirituality as a gradual suppression of ego, of visualizing self in the context of one's broader environment – both physical and human – with more importance placed on an *outward* perspective from self to others and the world. Spiritual transformation would therefore engender several mutually reinforcing influences as it relates to decisions about whether to

engage in corruption: 1) agents involved in transactions would spur temptation to enrich or empower oneself, 2) agents in the transaction would hold greater deference to others in the process, and 3) agents in the transaction would suppress personal desires in relation to outside structures and social norms. These notions will be explored in greater depth in the spirituality segment of the literature review.

2.1.6 Causes of Corruption – Risk vs. Reward

This subsection of the literature review on the causes of corruption has examined 1) the opportunity to engage in corruption, 2) the ethical and moral influences on decisions of whether to engage in corruption, and now we turn to the third broad cause: an evaluation of risk versus reward. These causes have been organized and sequenced in the order that most human beings will process these questions: If an official public transaction takes place in an environment where there is no opportunity to engage in corruption, it will not occur in that transaction. If there is opportunity, but at least one party to the transaction spurns corruption on ethical or moral grounds, there will be no corruption. In cases where opportunity exists, and none of the agents in the transaction is bound by moral or ethical constraints, each party will still need to consider the tradeoffs of risk versus reward. The most apparent risk to consider is the possibility of getting caught, though the consequences of getting caught can vary considerably. Perhaps the most benign consequence would be discovery by a third party who simply demands a share of the ill-gotten gains, but it could also range in severity from receiving a reprimand, to public shaming, to getting fired from a job, to legal prosecution. At the most severe range, one might risk personal injury or death. If a public official looks beyond their own personal risks of engaging in corruption, one might consider the risks of damaging the integrity and honesty of their office or

government, and indeed their reputation. Public officials might also consider damaging trust in personal relationships and, even more broadly, the political, economic, social and environmental risks to their nation and fellow citizens. Why do some people risk such negative possible consequences? Either because the risks or the magnitude of their actions is deemed to be small, or the potential rewards are large. This section will review both sides of this equation in turn.

Many observers and researchers have written about a “culture of corruption” that seems firmly entrenched in specific countries or regions (see Liu, 1983; Klitgaard, 1991; Hasty, 2005; Johnston & Brademas, 2005; Carr, 2006; Smith, 2008; Kingston, 2008). In countries where corruption has been documented to be very high, such as in Nigeria, its prevalence is part of the social norm, and largely accepted by all parties involved (Smith, 2008). When corruption in public service transactions is considered a “normal” part of doing business, there is very little risk taken by participants choosing to engage in corruption. Even if there were to be one rogue keeper of the law, their voice is drowned out by the overwhelming din in deference to the status quo. Furthermore, once this social and organizational norm is firmly entrenched, Klitgaard (1991) claims that a culture of corruption is exceedingly difficult to dislodge. Social and cultural change usually takes place at a relatively slow pace, but occasionally an aligning of events conspire to allow for a large step to be taken in a very short time (Rudel & Hooper, 2005).

The experience of Kenya over the last five years offers an interesting example in regards to public sector corruption. The current president, Mwai Kibaki, was ushered into office in early 2003 primarily on an anti-corruption platform, and the electorate seemed fed up with years of high level corruption under the previous regime. In the first few years of Kibaki’s presidency, corruption notably declined (Transparency URL, 2008), but since that time corruption has nearly returned to pre-reform, pre-election, levels (Crilly, 2005; Africa Confidential, 2006). An

important question remains in this case: was the inertia of a prevailing culture of corruption too strong to overcome, or did policy reform and political leadership squander a chance at a significant leap forward in the fight against corruption? Whatever the answer may be, it highlights the strength of cultural and social norms, in considering public sector corruption, and the diminished risk of involvement in a strong culture of corruption. Even if offenders are identified, there is very little public humiliation or shame, much less job, economic, or legal implications, because it is generally assumed that everyone is doing it (see Ekpo, 1979; Myrdal, 1989; Smith, 2008).

The risks of getting caught and punished for engaging in corruption are also diminished where management and/or supervision is weak, thereby compromising accountability (Bac, 1996). This is not referring to the possibility of management's lack of commitment to fighting corruption, or the fact that management may even be involved in corruption, but rather the institutional effectiveness of management and control. This may result from structural issues, such as proximity of oversight or span of control, or perhaps from underlying constraints of a lack of resources or training. The level of discretion that public officials encounter in their role, combined with the strength of accountability systems, presents a calculable risk of deviant behavior (Findley & Chor-Wing, 1989; Kalman, 2001).

There are also legal risks to engaging in corruption, and the level of risk may depend on the strength of enforcement, the origins of rule of law, and the reliability and independence of the judicial system. In large cross-sectional studies, La Porta et al. (1999) and Treisman (2000) found differences in corruption based on legal systems. The common law system, which developed first in England and was subsequently transplanted in British colonies, provides greater protections to citizens against state powers than does the civil law system (Treisman,

2000). By contrast the civil law system, which emerged in continental European countries and subsequently transferred to their colonial territories, was developed for use by the state for state building and controlling economic life (David & Brierly, 1985). Not surprisingly, the evidence points to a better record on corruption in countries that have common law systems, presumably because citizens have stronger legal rights against corruption by the state. The evidence also shows better records on corruption from countries with a heritage of British colonialism or influence (Rosen, 1978). The differences, while significant across a large number of cases, do not fall into clean divisions. For example, there are exceptional cases of common law systems and British colonial heritage that suffer high corruption levels, such as Kenya, and there are exceptions on the civil law list of countries as well. Furthermore, not all former British colonies use a common law system today, and some countries that do were not colonized by Great Britain (Treisman, 2000). While all the cases do not fall within neat and tidy boundaries, the evidence shows that public sector corruption is constrained more in common law legal systems that protect the rights of citizens, most notably against illegal state action. The risk for the public official in weighing a decision whether to engage in corruption, therefore, is not only the risk of getting caught, but also the foundational perspective of the legal system and how that tilts toward whose rights are most protected.

Given the varied nature of public sector work, a myriad of departments, and many different individual rolls, it is recognized that there are many other factors that impact the risks involved with engaging in corruption on a case-by-case basis. The literature review above describes some of the broader issues that are at play, both individually and systemically, across most areas of public service, and in all countries. Regardless of system or structure, the decision of whether to engage in an illegal act of corruption comes down to the decision of an individual

public official, and the risks of negative repercussions are weighed against the possible benefits of the action – the spoils. As the next topic of spoils (or rewards) is reviewed, the discussion will be limited to the potential benefits that might accrue to the public official involved in acts of corruption. While the benefits to the client are important, the range of possibilities is nearly infinite, and that side of the transaction is not as critical to this analysis.

What rewards are available to the public official willing to use their role or office for private gain? The possibilities range widely, and include money, power, favors, status and fame; but the one that is most prevalent, and destructive in terms of magnitude, is money. “Extra” money may be attractive for different reasons, but evidence seems to indicate that the temptation is greatest when the need is greatest (see Myrdal, 1968; Carino, 1986; Klitgaard, 1988; Tanzi, 1994; Lindauer & Nunberg, 1994; Van Rijckeghem & Weder 1997; Cokgezen, 2004). In his book on corruption in Nigeria, Smith (2008, p. 85) notes, “in the struggle to survive and succeed in contemporary Nigeria, the immediate interests of assisting family, friends, and other allies usually trump a more abstract awareness of what might be in the best interest of the larger society”. In Mexico, the poorly paid police are confronted not only with enormous bribes from drug traffickers, but also the threat of injury or death if they refuse to accept the bribe (Cevallos, 2008).

There is a significant literature linking low wages of civil servants to corruption (see Myrdal, 1968; Carino, 1986; Klitgaard, 1988; Tanzi, 1994; Lindauer & Nunberg, 1994; Van Rijckeghem and Weder 1997; Cokgezen, 2004). It is probably not surprising that corruption is highest in conditions where civil servants are paid the lowest wages, even within agencies and within countries (Besley & McClaren, 1993). In many low income countries (LICs), wages at the lowest levels of the civil service are unrealistically low, and Tanzi (1994) suggests this

condition not only invites corruption, but creates conditions where society will actually condone acts of corruption. In one of the darkest eras of the former Zaire, President Mobutu Sese Seku publicly encouraged his civil servants, “If you want to steal, steal a little cleverly, in a nice way. Only if you steal so much as to become rich overnight, you will be caught” (Gould, 1980). But how much do wages need to be raised to impact corruption?

Caroline Van Rijckeghem and Beatrice Weder (1997) confirmed the empirical evidence of a negative relationship between corruption and wages in low income countries (LICs), but they wanted to learn more about specific wage thresholds that may impact corruption. Some early studies on this effect suggested that raising wages sufficiently to have any positive impact on corruption would be prohibitively expensive for LICs (Rose-Ackerman, 1996; Bardhan, 1997). However, Van Rijckeghem and Weder (1997) employ Akerlof and Yellen’s (1990) “fair wage-effort hypothesis” model to suggest that public officials will spurn corruption if they feel that they are being paid a “fair wage”; in effect they suggest that an effective corruption eradication policy may be less expensive than previously thought, and within the affordable reach of many LICs. This view confirms some earlier writings on corruption by Lee (1981) and Fehr et al. (1993). But what is considered a fair wage? Not surprisingly, the concept is quite subjective, but it also has far different meaning in different countries. For example, Kraay and Van Rijckeghem (1995) documented that government employees in many LICs, especially in Africa, tend to be more highly skilled than average in society, suggesting that they should be paid at rates higher than the GDP per capita. When civil servants are some of the most highly trained and skilled workers in society, yet they are paid an official wage that may just barely meet the basic needs of his or her family, they are very likely to consider the wage unfair. Add to this scenario the fact that control and accountability mechanisms may be poor or lax, and that

their position as a public official provides opportunity and sometimes leverage for exacting an illegal reward, the risk-reward assessment often decidedly favors the reward.

Considering some of the theories and research noted above, and the logic of human nature and pragmatism, it seems clear that the size or attractiveness of the reward may be relevant to the individual needs of the public official, and their assessment of the fairness of their official wage. In the research and literature there is general agreement on this notion in cases where the official wage is extremely low, and/or considered extremely unfair. The literature divides into several strands at wage levels above these low and unfair wages, but there is no agreement about where the relevant thresholds may lie and, added to the complexity, it is thought that these thresholds are different country to country, or culture to culture. This question of how individual public officials view the rewards received from corrupt activities drives one of the great debates in the research and literature on corruption and affluence; does corruption cause poverty, or does poverty cause corruption (Paldam & Gundlach, 2008)? This is a critical question with vastly different implications for how one approaches anti-corruption efforts, including assumptions that impact policy decisions. As this debate has significant implications for the merits and purpose of this study, the research and literature will be reviewed in greater detail in the next subsection.

To summarize this subsection, public servants encounter choices about whether to engage in acts of corruption based on whether there is opportunity, personal and societal moral and ethical influences, and an assessment of risk vs. reward. Effective efforts to fight corruption need to encompass all three of these areas because it is considered impossible to completely close off any one of the three. For an act of corruption to occur, all parties involved in the transaction must have minimal resistance in all three of these areas. If one individual offers

resistance in just one of these areas, it minimizes the chance that corruption will occur. The major emphasis of this study is to look primarily at the second area (moral and ethical influences), although there is overlap between each of these broad classifications. Analyzing how religion and spirituality link with corruption helps add to this area of the research and literature.

2.2 CORRUPTION AND DEVELOPMENT

Two hundred years ago almost every person on earth was poor, “with the exception of a very small minority of rulers and large landowners” (Sachs, 2005, p. 26). People in one country or region were no better off than people anywhere else on earth; most lived a difficult and subsistence lifestyle that would be considered very poor by today’s standards. The world looks very different today, however, with enormous wealth and prosperity enjoyed by some people, while others continue to suffer in poverty, not much better off than their ancestors 200 years ago. Total world output, and even world *per capita* GDP have grown exponentially since the early 1800s, leading Simon Kuznets (1966) to famously term it the period of *modern economic growth*. But why did this great economic growth and wealth accumulate so unevenly, among people and places, and what can be done today to assist those at the most extreme levels of poverty? These questions continue to perplex researchers and writers concerned with the many issues of international development.

The term *development* can mean many different things, but in the context of this debate and project, development refers to improvements in standards of living. Living standards can also be calculated in many different ways, but the most common and accepted international

measures are related to income, wealth, and per capita GDP. By any of these measures, worldwide growth since the early 1800s has been phenomenal, and without precedent in known human history. What makes this so remarkable is that in relation to the full history of human existence on earth, 200 years is a relatively short period of time for such a significant change to occur; unfortunately, only a portion of world citizens have benefitted from this historic and quick improvement in living standards, while many others have remained on the sidelines and have not been able to participate in this great transformation.

A significant portion of the research and literature in development has been trying to explain how this great transformation occurred, and whether lessons learned from successful efforts can now be useful to regions, people, and countries that have largely been left behind. This very statement highlights one of the most contentious debates in the development literature, the theories of modernization vs. freedom from dependency. The modernization school, as typified by Rostow (1960), Apter (1965) and Pye (1966), suggested that the problem was endogenous to poor countries. The theory was that local cultures and traditions were a barrier to economic growth and prosperity; they were 'backward' and needed to change in order to allow proven western methods and structures to succeed. In other words, poor countries needed to modernize.

The freedom from dependency school developed in direct reaction to the theory of modernization. Led by early writers, such as Baran (1957), Frank (1967) and Warren (1973), this school stressed that the problems of underdevelopment were exogenous to poor countries. The theory suggested that the advanced capitalist countries developed economically at the expense of poor countries and, furthermore, the current world structures and linkages which the rich countries retain leverage over keep poor countries poor. In other words, poor countries

needed to break the dependency linkages with rich countries. The strength of these movements has ebbed and flowed over the past half-century, though Isbister (1995) claims that modernization theory remains the dominant philosophy of social scientists, especially since it fits most closely with the worldview of writers from, or steeped in, the developed countries. This study is not intended to fit within either of these paradigms, though it is acknowledged that the data on corruption, and the predominant view of corruption, comes primarily from a western/northern perspective and value set. Effort was made in this project to intentionally search for learning from available examples in LICs.

Even before the phenomenal growth period of the past 200 years, one of the earliest theories about why some civilizations experienced more development than others was geography (see Machiavelli, 1519; Montesquieu, 1748). More recent research on the geography-development link has highlighted a number of key issues related to location, including prevalence of disease (Diamond, 1997), natural abundance (Mazrui, 1986; Sachs & Warner, 1995), climate (Sachs & Warner, 1995; 1997; Landes, 1998), crops (Diamond, 1997; Bloom & Sachs, 1998; Sachs, 2001; Olsson & Hibbs, 2005), livestock (Diamond, 1997), access to sea trade (Bray, 1993; Arimah, 2004; Sachs, 2005), and proximity to rich trading partners (Easterly & Levine, 2003).

In addition to geography, other ideas that have been tested, and found to have an impact on economic growth, include: size of government (Dar & Amirkhalkhali, 1999; 2002; Sachs, 2005; Romero-Avila & Strauch, 2008), openness to trade (Frankel & Romer; 1999; Feachem, 2001; Chiarlone & Amighini, 2002; Bloch & Tang, 2004), savings and investment (Romer, 1993; Borensztein, DeGregorio & Lee, 1998; Alfaro, Areendam, Kalemli-Ozcan & Selin, 2003), role of women in society (Anunobi, 2005; Parris, 2005; Joireman, 2008), stock and financial

markets (Jaber, 2000; Alfare, Areendam, Kalemli-Ozcan & Selin, 2003; Collins & Abrahamson, 2006), political freedom (Savvides, 1995; Ali & Crain, 2002; Roll & Talbott, 2003), economic freedom (Ali & Crain, 2002; Doucouliagos & Ulubasoglu, 2006; UsSwaleheen & Stansel, 2007), independence of the central bank and monetary policy (Pollard, 1993; Sakamoto, 2005; Levy, 2006), fiscal policy (Brons, De Groot & Nijkamp, 2000; Nijkamp & Poot, 2004), percent of exports which are primary goods (Sachs, 2005; Todaro & Smith, 2006), size of country (Khalaf, 1979; Root, 1996; Salmond, 2006), language (Kaufmann, Kraay & Zoido-Lobaton, 1999) and corruption and institutions (De Soto, 2003; Portes & Smith, 2008; Weiss, 2008), among others.

This partial list of *determinants of development* is included here to demonstrate the multifaceted nature of economic growth, and to place the issues of corruption and institutions within the broader debate and literature on economic growth and development. Breakthroughs in understanding in any one of these areas will not provide a ‘smoking gun’ or ‘silver bullet’, because no lone determinant of economic growth can single-handedly solve the problems of poverty and development. However, the only way to move forward, and make overall progress, is to gain new understanding on each and every determinant of development, and this project aims to do that for the general areas of corruption and institutions. This section now turns decidedly in that more specific direction, first looking at some linkages between geography and institutions, and finally addressing the question of corruption and development.

Geography surfaces in many different debates on corruption, and one recent study addressed how much geography alone is a determinant of development, versus how geography may work in an indirect way through institutions and policies to impact economic growth. In a large cross-country study, Easterly and Levine (2003) tested the affect of some of the endowments of geography (tropics, germs, and crops) on economic growth, as well as

institutions and policies on economic growth, and finally the endowments on growth through their affect on institutions and policies. They found “no evidence that tropics, germs and crops affect country incomes directly other than through institutions, nor [did they] find any effect of policies on development once [they] control for institutions” (Easterly & Levine, 2003, p.3). This is an interesting finding indeed, but one that can be substantiated by several other studies.

Acemoglu, Johnson and Robinson (2002) offer a *germs* theory of institutions. They suggest that European colonizers did not settle in countries/regions with deadly diseases, and instead set up institutions in those places to empower elites to extract resources to be sent back to the colonial power. By contrast, countries and regions that had a more hospitable disease environment were attractive for settlement, and the colonial powers “created institutions to support private property and check the power of the state” (Easterly & Levine, 2003, p. 8). Acemoglu et al. (2002) claim that the patterns and outcomes of these initial institutional trajectories are still visible in many former colonies today, with the heritage of ‘extractive’ institutions continuing to limit the potential for economic growth and potential.

Regarding the influence of *crops* on institutions, Engerman and Sokoloff (1997) compare the development experiences of Latin America and North America. They suggest that land endowments in Latin America encouraged large, economies-of-scale farming of cash crops using slave and/or peasant labor. This concentrated power in the hands of rich, elite plantation owners, who had sufficient leverage to resist movement toward most forms of power sharing. By contrast, land endowments in North America encouraged small-scale, family farming of food crops using mostly family members as labor. This structure gave rise to a larger middle class, where power was more widely dispersed, and the middle class retained enough leverage to resist most forms of power concentration by fewer and less powerful elites. This theory was later

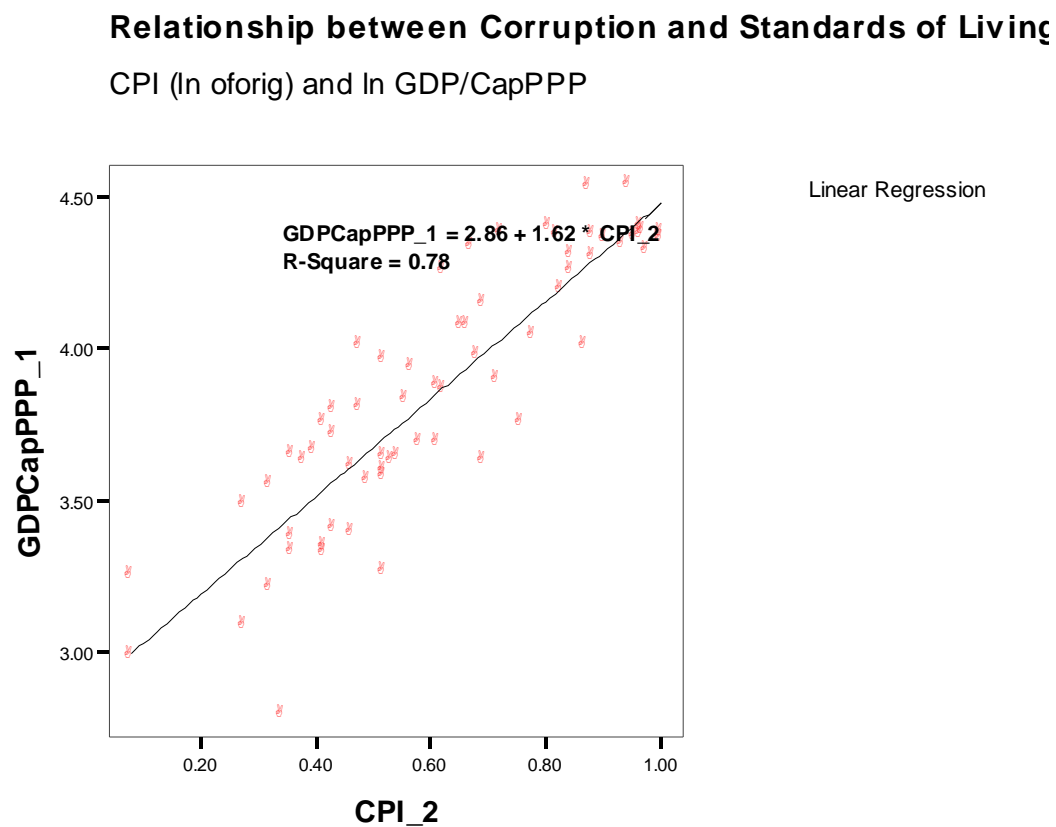
tested and substantiated by Woolcock, Pritchett and Isham (2001) looking at the resource wealth of different economies, and Easterly (2002 & 2007), following the inequality thread.

The *tropics* affect on institutions is more straightforward. Hall and Jones (1999) suggest that colonial Europeans tended to more likely settle in climates similar to their home region, closer to Western and Northern Europe and therefore further from the tropics. The argument was that Western Europeans had more developed and successful institutions, and they took those institutions to the countries and regions where they settled. A different but complementary perspective is offered by Mauro (1995) who notes that ethnic fractionalization (in regions less settled by Europeans) contributed to less effective institutions and more corruption.

It can be deduced from the literature review above that institutions and corruption affect economic growth and development but, in turn, they are also affected by a variety of historic and contemporary factors, including many of the endowments associated with geography and colonial heritage. It also bears repeating that corruption is only one of many other determinants of development. Adding further complexity to the link between corruption and development, corruption not only affects economic growth and development, but it is believed by some to be affected by economic growth, specifically higher income. Martin Paldam and Erich Gundlach (2008) provide a helpful typology for considering these causal affects; they suggest that “the Grand Transition (GT) view claims that economic development is causal to institutional development, [...whereas...] the Primacy of Institutions (PoI) view claims that economic development is a consequence of an exogenous selection of institutions” (p. 65). Does corruption impede economic growth and development, as Lambsdorff (2007) and others claim, or are economic growth and development needed to lower corruption, as Paldam and Gundlach

(2008) claim? Or is there merit to be found in both of strands? This next section will review this question, drawing on the research and literature supportive and critical of each view.

The one part of this puzzle that is not under debate is the presence of powerful relationship between corruption and living standards. The following graphic shows the strength of this relationship using a linear regression model:



Source: CPI data from Transparency International
Source: GDP data from CIA FactBook

Figure 2.1 Relationship between Corruption and Living Standards

Corruption is shown across the horizontal axis, and the variable has been transformed in pre-analysis data screening computed as the natural log of the CPI measure. Living standards, as

measured by purchasing power parity (PPP) per capita GDP, is shown on the vertical axis and was also transformed in pre-analysis data screening computed as the natural log of the raw data. The clustering of the data points (countries), and line of best fit, shows a strong positive relationship between these two variables, and the proximity of cases close to the regression line calculates to a significantly high R-square value of 0.78. This demonstrates, in graphic form, that in the experience of all countries taken together that living standards and corruption change in tandem across the full range of values for each variable.

The grand transition (GT) view, as its name implies, suggests that there is a massive transition of national proportion (Chenery & Syrquin, 1975) that takes place in conditions of steady economic growth (Paldam, 2002). In other words, as the economy grows faster than population growth, incomes and living standards rise, and this in turn causes institutions of all kinds to also show steady improvement. It all happens together, with reinforcing impact, but the catalyst is economic growth (Gemmell, 1993). The logic behind this view suggests the following sequence of events. When production rises, this causes more specialization and division of labor, and this drives the need and desire for more skills, training, and education, which in turn improves the efficiency and effectiveness of all institutions. Also, as economic activity increases, both for domestic and international markets, more transactions need to occur in the same space of time. This places pressure on processes of institutions to be more efficient, and it may also pressure bureaucratic leaders to be more transparent, thereby providing more resistance to corruption (Kuznets, 1968; Paldam & Gundlach, 2008)

The GT view predicts, therefore, that rising incomes – as a byproduct of steady economic growth – will reduce corruption. The literature on wages and corruption, reviewed above, would tend to support this theory, especially in the cases of very low wages (Carino, 1986; Klitgaard,

1988; Besley & McClaren, 1993; Cokgezen, 2004) and wages that are considered to be unfair (Lee 1981; Fehr, Kirchsteiger & Riedl 1993). However, the fair wages theory suggests that low wages encourage corruption only up to the threshold above which wages are considered fair (Van Rijckeghem & Weder 1997). The threshold itself is debatable, and varies across countries and contexts, but this theory would not support the GT view at high income levels, whereas the data shows a consistent pattern through the entire range of incomes.

Whereas the GT view holds that the quality of institutions is determined only by economic growth and relative wealth, the Primacy of Institutions (PoI) view claims the opposite; that economic growth and relative wealth are determined (at least partially) by the quality of institutions (North, 1981; Rodrik, Subramanian & Trebbi, 2004; Acemoglu, Johnson & Robinson, 2005). The argument from this school is that honest and well-functioning institutions provide the conditions for free and prosperous economic activity. This theory gained strength in the neo-classical era of the 1980s and 1990s, with empirical long-run growth studies by Kormendi and Meguire (1985), Baumol (1986), Barro (1991), and Mankiw, Romer and Weil (1992).

One factor that makes this theory so appealing is that while the GT view cannot always explain the catalyst that leads to economic growth, the PoI school claims that improving institutions is a choice. Paldam and Gundlach (2008) offer a number of good country examples to substantiate this link. Unfortunately, not all policy makers have the same range of choices, given different endowments, and the choice – as implied by the PoI perspective – is often between short-term personal and political gain for leadership, versus long-term gain for the nation as a whole. This sometimes sets up a chronic crisis of political motivation and incentives that work against long-term economic interests, and Paldam and Gundlach (2008) also cite a

number of cases that fit this pattern. Another factor that severely limits the PoI view, as a legitimate theory of economic growth, is that there are so many other issues that also impact growth; it has been a challenge to account for the impact of institutions, while controlling for all other possible affects on growth. For example, the theory does not seem to account adequately for variation in culture, and as Joireman (2008) and Harrison and Huntington and their colleagues (2000) declare, *Culture Matters!*

In their study of actual country experiences around the world, Paldam and Gundlach (2008) find evidence to support both views; some countries seem to have developed with poorly functioning institutions (some oil-rich countries are examples here), giving support to the GT view, while other countries seem to have developed primarily because of well-functioning institutions, giving support to the PoI view. They claim that “more recently, the PoI view has become the dominant view in the mainstream economics literature. [They] consider (some of) the evidence and find much in favor of both views. [Their] essay thus claims that the empirical evidence is far too weak to [...] declare a ‘winner’ of the race between the two views” (Paldam & Gundlach, 2008).

Perhaps one of the most persuasive arguments in support of the PoI view involves the role of investment. The causal link between investment and economic growth, under nearly all conditions, is strong, positive, and rarely disputed by economists (see Barro & Sala-i-Martin, 1995). Investment buys capital of all kinds (physical, human, business, infrastructure, etc.) and is the key to increasing productivity. Rising productivity increases output (GDP), incomes, and living standards, and decreases poverty. Jeffrey Sachs (2005, p. 245) argues that the extreme poor are often “trapped in poverty because the ratio of capital per person actually falls from generation to generation”. The one exception to the investment-growth causal link is when an

economy lacks sufficient absorptive capacity to capitalize on investment (Borensztein et al., 1998), and very few economies have resembled that condition in the last century.

Slightly less clear, but still overwhelmingly supported, is the causal link between corruption and investment. In the increasingly free flow of global assets, investors gravitate toward economies most likely to provide the highest return on their investment; economies that are business-friendly, where there is strong property rights, rule of law, and a reliable judicial branch. Investors are attracted to countries where business can get started quickly and can run efficiently and effectively, and all of these investment virtues are compromised by corruption. The majority of empirical studies exploring this link find that corruption does indeed reduce investment and/or slows economic growth (see Mauro, 1995; Wei, 1999; Lambsdorff, 2003; Pellegrini & Gerlagh, 2004; Swaleheen, 2007). Interestingly, though, a few exceptions have been documented. Rock and Bonnett (2004) found that corruption does indeed reduce investment and growth in most LICs and particularly in small countries; however, they found that corruption increases growth in large East Asian newly industrialized countries (NICs). This latter finding provides support to what has become known as the East Asian paradox, explaining how the NICs achieved remarkable growth, even with relatively high levels of corruption. This paradox is not fully explained in the literature, though it has been associated with the particular kind of corruption that was present, and related to cultural norms in those societies. Egger and Winner (2005) also found empirical exception to the corruption-investment causal link, but their study was limited by sample size and the time period range.

One of the secondary components of this dissertation is to test a portion of the premise of the PoI view, as the research of this project explores some of the sequential linkages from religion and spirituality to corruption and institutions, with assumptions of subsequent impact on

economic growth and development. One specific test was run to examine causality between corruption and development by exploring the linkage between public sector corruption and the number of days it takes to start a new business; this will be explained in more detail in the methodology and analysis chapters.

2.3 RELIGION AND CORRUPTION

In 2005, with funding from the UK's Department for International Development (DfID), the Religions and Development Research Programme Consortium (RaD-RPC) was created to research the links between religion, development and poverty because, as RaD-RPC stated:

- Religion is a key dimension of many people's lives and influences their actions;
- Religious organisations are significant in most societies;
- Religion and politics are linked in controversial ways;
- The role of religion in public life is being radically reassessed;
- Conventional approaches to development and poverty reduction have generally ignored the role of religion in human lives and societies;
- Relationships between mainstream development actors and religious organisations are poorly understood (RaD-RPC URL, 2008).

One of the first objectives of this new organization, with its fresh and novel mandate, was to take full inventory of the research and literature published to date in this new, narrowly-defined field. What they discovered was “a near complete paucity of material on the subject, which should have been surprising given the immense importance of religion and faith to the lives of most people living in developing countries, including their political activities. This was particularly

true when we looked at one area included in this remit: the literature on good governance, and corruption particularly” (Marquette & Singh, 2006, p. 2). These findings are corroborated by Marshall and Keough (2004), who document that religion has been unacknowledged, and often unseen, by many development practitioners, even though it is critically important in our understanding of how to fight poverty.

While on the one hand it is surprising that so little research and literature have addressed the links between religion, corruption, development and poverty, on the other hand it can be explained by the history and evolution of the fields of economics, political science, and development studies. Religion has been well-researched in its own field, as well as within the disciplines of anthropology and sociology, but those studies have rarely linked religious understandings to the domains of economics and political science (the few exceptions being studies only in HICs, and primarily in the United States). Furthermore, the fields of economics, political science, and development studies are known to be highly secular, and with a penchant for quantitative analysis that does not always conform to data on religion. This section of the literature review will highlight some of the history and development that led to this chasm between concepts, assess the literature that has been published (though limited), and provide a rationale for this dissertation by identifying the gaps in the research to which this project will contribute.

Many experts in the field today trace the birth of modern development, or development studies, to the post-WWII period, with the Bretton Woods Conference, establishment of the World Bank and International Monetary Fund (IMF), and other multi-lateral agencies, and implementation of the Marshall Plan for the restoration of Europe (Staples, 2006). These agencies and plans were created in the shadow and paradigm of the most powerful state

emerging from WWII, and the United States represented the ideal secular state with a firewall-like separation between church and state. It wasn't just that the state would be insulated from the influences of the church, but religions of all kinds would also be free from the influences of the state. Modern development, and development studies, were birthed and steeped in this view of state secularism, thoroughly permeating the disciplines of governance – political science and economics (Marquette & Singh, 2006), and by extension, development studies.

In addition to the founding and early influences on economics and political science, these disciplines gained strength throughout the twentieth century in parallel with the 'secularization of society' in the West; the overall decline in the influence of religion and religious institutions (Albrecht & Heaton, 1984). During the time that most former colonies gained their independence, modernization was the dominant development theory, assuring that their new or adapted political systems and structures would be modeled after those in the West (Randall & Theobald, 1985). Building a secular state was also appealing to policy makers in many emerging independent countries as they attempted to build nationalism among populations with strong religious and ethnic diversity (Chandra, 1984). Marquette and Singh (2006, p. 3) summarize the result of these historical influences by suggesting that "with few exceptions secularism became the operative constitutional norm for new states after 1945 in the developing world. Efforts at nation and state-building in mainly preliterate and agrarian societies were undertaken by Western-educated elites with the aim of emulating the social and political transformation of the West".

This modern state system, with a nearly impenetrable firewall between church and state, greatly influenced how scholars viewed (or missed) religion and its impact on politics and the workings of government. Where some scholars ventured into this fray, studies were often

limited by the “thinking of state-church relations [as] a single relationship between two clearly distinct, unitary and solidly but separately institutionalized entities” (Haynes, 2005, p. 246). As a result, studies that might have addressed how politics and governance are impacted through the influence of religion on individuals in the political and civil service sphere are lacking, and that is one gap that this dissertation project aims to address.

Many observers today suggest that the secular state is recently in decline, at least in some parts of the world. Roy (2004), and others, have now identified the 1979 revolution in Iran as a tipping point in the Middle East and broader Islamic world, and perhaps toward a return of religion into public life in other regions as well. In addition to pressure from internal populations, many governments of low income countries (LICs) were also being squeezed from above with a new paradigm of development, authored by the World Bank and IMF. The structural adjustment policies that emerged from a new ‘Washington Consensus’ in the 1980s forced many countries to reduce the size and influence of the state, while also meeting good governance targets and reigning in public sector corruption. These combined forces have allowed the influence of religion in public life to find footholds and gain strength in what appears to be growing trend (Casanova, 1994; Haynes, 1998). Increasing tensions and hatred between “Christian” and “Islamic” nations and peoples, and between “Islamic” and “Jewish” nations and peoples in recent years may be viewed as evidence of religion gaining influence in state relations. Recent wars in the Middle East and ethnic and religious wars in the Balkans and in some African countries seem to support Huntington’s (1997) prediction of a *Clash of Civilizations*... with religious identities at their core. Another factor in the resurgence of religion in the public sphere comes from a literature that eschews a ‘one size fits all’ prescription to economic growth and development, claiming instead that cultural differences make each country

and case unique (Lavoie & Chamlee-Wright, 2001; Rao & Walton, 2004). Religion is drawn into this debate as being inextricably intertwined with culture.

Much of the criticism of the secular state is originating in the developing world, in reaction to the rapid spread of modernization and Westernization coming from globalization (Inglehart & Baker, 2000; Hurrell, 2002). Williams (2002, p. 4) links the globalization movement to what Karl Polanyi called a ‘great transformation’, and the religious responses that are signs of “society fighting back against the ravages of the unregulated free market”. There is also sentiment, in some regions, that secularism and the secular state are constructs of Protestant Christianity, leading some to suggest that it is not only incompatible, but it is also inappropriate with other world religious traditions (Madan, 1987). Despite the recent overall retreat of the secular state, particularly in LICs, and the reemergence of the influence of religion in the public sphere, there remains very little research and literature in this area. This is even more apparent in the specific area of *religion* and *corruption*, which is again surprising both because religion is of such stated importance to people in most LICs, and because public officials in those countries are likely to derive much of their ethical framework from their religious experience.

Since ethical and moral influences are an important part of the decision for any public official considering whether to engage in corruption, religion and spirituality that provide both personal and social ethical and moral standards should be of particular interest in the fight against corruption. This raises the question of why there is so little research and literature exploring the relationship between these issues. One reason is that corruption and religion are difficult variables to document and quantify; corruption because by its very nature is often kept secretive and hidden (Johnston, 2001), and religion because it is understood and expressed uniquely by each individual and not always outwardly observable. But there are other reasons as

well. Marquette and Singh (2006, p. 7) write that “morality has been stripped away from much of the contemporary debate about corruption, as it has been from [its] definition”, though Williams (1999) suggests that it wasn’t always that way: “Before it became subject to the rigours of modern social science, corruption was used primarily as a term of moral condemnation. In moral terms, to corrupt means to pervert, degrade, ruin and debase”; however, “[w]ith isolated exceptions, modern social science has largely eschewed the moral perspective on corruption” (Williams, 1999, p. 504). Furthermore, research treatment of corruption has mostly been from the perspectives of economics and political science, two disciplines highly secular in nature, and perhaps uncomfortable with discussions in the spheres of religion, faith, and morality. Despite this history, Marquette and Singh (2006, p. 7) suggest that “increasingly, scholars of corruption recognize the need to ‘re-inject’ an understanding of the link between (im)morality and corruption into the debate”.

While there is a relatively small literature on the specific relationship between religion and corruption, there have been a limited number of research studies, and this section will highlight some of the major themes and projects. In one of the first major studies in this area, La Porta et al. (1997) found evidence that hierarchical religion correlates positively with perceived corruption – countries dominated by religions that are relatively more hierarchical were found to have higher levels of perceived corruption. Daniel Treisman (2000) published a study on the causes of corruption, of which one cause was documented to be religion. In addition to building on the hierarchical findings of La Porta, et al. (1997), Treisman analyzed how religion sometimes influences an individual’s sense of loyalty to family over other citizens at large, and how that impacts corruption.

Paldam (2001) examined the impact of culture on corruption, and he used religion as a proxy for culture. This required a classification of religions, and his coverage included only the major religions of the world, with some grouping of smaller and similar faith groups. His initial findings were that Christians were somewhat less corrupt than non-Christians, but this result was not statistically significant. However, when Paldam divided the various Christian faith groups into pre-reform (with the Reformation as the dividing point) and post-reform Christian traditions, he found that post-reform Christians were significantly less corrupt. Paldam called this finding the ‘Weber link’ after Max Weber’s assessment that “certain religions – notably the more puritan strands of Protestantism – place moral value on thrift, honesty and saving, condemning idleness and consumption” (Paldam, 2001, p. 391). This strand of the literature has been supported in other findings by Williamson (2000) in reference to the institution of religion, and by Lipset and Lenz (2000), North and Gwin (2004, 2006), and Gokcekus (2008) in reference specifically to Protestantism. Interestingly, North and Gwin (2004, 2006) also found that Hinduism also ranks higher for rule of law and lower for corruption, but to a lesser extent than Protestantism, and the sample size for Hindu countries is very small. Finally, Beets (2007) builds on Paldam’s (2001) analysis using new data and dominant religion classifications, and he found similar results but with the addition of Judaism as being least corrupt. While these have been helpful contributions to this emerging field of research, each study has limitations in terms of classification of religious groups, controlling for other factors that may have impacted corruption outside of religion, and the challenges of small sample sizes, especially for dominant Jewish, Hindu, and Buddhist countries.

The studies listed above also limit their analyses to religion as a classification, rather than religion as a personal faith and expression. Westfall (2006) and Beets (2007) begin to address

the personal side of religion, as it may impact corruption. In his (2006) cross-sectional analysis, Westfall was disappointed to find the relationship between corruption and the importance of religion (what he called ‘religiosity’) was weak, though he predicts that stronger ties will be proven in time with better data. In the second half of his (2007) study, Beets analyzes the relationships between corruption, incomes, religion (classified), religious freedom and religiosity, and he finds some confirming results from earlier studies, though still some perplexing relationships:

...the citizens in those nations which are perceived as having relatively less corruption tend to consider religion to be relatively less important, experience relatively more religious freedom, have a relatively large GDP per capita, have relatively more fellow citizens who are Christian, and have relatively fewer fellow citizens who are Muslim. Conversely, the people of countries that are perceived as having relatively more corruption tend to consider religion to be relatively more important, experience relatively less religious freedom, have relatively small GDP per capita, have relatively fewer fellow citizens who are Christian, and have relatively more fellow citizens who are Muslim (Beets, 2007).

Perhaps the most perplexing result of this analysis is the relationship between religiosity and corruption, because it seems to defy logic. All the major religions of the world teach of the importance of honesty and integrity, and they condemn acts of dishonesty and theft. Logic would hold, therefore, that levels of corruption should be much lower in countries where religion is more important to the people; but the opposite outcome is found in Beets’ (2007) study. What is happening? Several theories have been advanced to explain this anomaly, though to my knowledge no empirical studies have confirmed these theories. As early as the mid 1950s, Will Herberg (1955, p. 61) posited that people are attracted to religion “to serve the need for security”. Under this theory, populations in generally insecure environments, such as in poor and/or highly corrupt societies, would seek and retain religion in higher percentages than in relatively more secure environments. Marquette and Singh (2006) suggest that religion itself, in

many of the high-corruption countries, may create a culture of loyalty towards, and an acceptance of, authority in ways that may induce corruption. Beets (2007) offers the explanation that the number of people victimized by corruption is much larger than the number of perpetrators, and these many victims seek religion as solace. This dissertation project aims to add to this explanatory framework by examining more detailed variables which define religiosity, by addressing the issue of religious expression, which heretofore has not been applied in this context, and by adding spirituality and its expression to these research questions.

A final thread of literature on the relationship between religion and corruption is offered by Beets (2007) as he addresses the high-religiosity, high-corruption paradox. He states his belief that the influence of religion may be significant in the individual decisions about whether to engage in corruption, and he reports that religious leaders “have become increasingly vocal in their condemnation of corruption” (Beets, 2007, p. 69). Beets also notes that since the attributes of honesty and integrity are universal teachings across all major religions, this agenda could work to unify many faith groups in their mutual opposition to corruption.

To summarize this subsection of the literature review, the research addressing the specific relationship between religion and corruption is relatively small. The studies that are published are all relatively recent and, with only a few exceptions, the measure of religion has been broadly classified by faith group. Most of today’s developing countries structured their constitution and government in an era when modernization theory dominated development studies, and the gold standard was the secular state as epitomized by the separation of church and state in the U.S. The fields of political science, economics and development studies became highly secularized, thus inhibiting research on the interaction of religion and development, and specifically of religion and corruption. The fields of religious studies, anthropology, and sociology provided

helpful research within those broad parameters, but empirical studies rarely extended to economics, growth, and specifically to corruption.

This history and evolution leaves several gaps to which this research project aims to contribute, specifically in the area of religiosity as a *personal* faith and also how that religiosity is *expressed* in life. One of the factors limiting research in this area has been the challenge of obtaining sufficient and reliable data on religion, especially from low income countries (Iannaccone, 1998). This study will make use of World Values Survey (WVS) data on religion, and other socio-demographic data, and this growing database is gaining esteem for its increasing coverage and reliability. This study is timely in an era when the secular state model is in retreat, and there is great need to better understand how religion interacts with governance.

2.4 RELIGION AND SPIRITUALITY

Before reviewing the relationship between spirituality and corruption, this brief section will address the differences, commonalities and connections between religion and spirituality. Most people have very little difficulty defining religion, but confusion often prevails when the topic turns to the definition of spirituality, and its relationship with religion (Dyson, Cobb & Forman, 1997). In fact, Moberg (1984) and Narajanasamy (1993) found that most people try to define spirituality in terms of religious faith, actions and beliefs. This confusion is partly due to the fact that there is a very small research and literature base focusing on spirituality alone, and Bown and Williams (1993) suggest further that many of the studies on spirituality are authored by Christians, and so reflect that perspective. This section will attempt to provide definition and clarity to this confusion.

One helpful distinction between religion and spirituality comes from a comparison of the two offered in the *Handbook of Religion and Health* (2001). Religion is described as an “organized system of beliefs and practices intended to mediate an individual’s relationship to the transcendent and to the community. Spirituality is a more personal and less formal search for meaning and relationship to the sacred” (Geppert, Bogenschutz & Miller, 2007, p. 389). Organized religion offers a social institution through which participants find social meaning with other members, and possibly individual meaning with the transcendent. By contrast, spirituality begins with the self; a suppression of ego (Rindfleisch, 2007) to gain greater insight of one’s place, meaning and purpose in the natural world; with others, nature, and possibly with the transcendent. A focus on the inner self and inner resources is fundamental to the exploration of spirituality in the ultimate quest to find meaning and purpose in life (Burkhart & Nagai-Jacobson, 1985; Hay, 1989).

Religion may provide a formalized channel through which spirituality may be expressed, but its formal and sometimes rigid requirements may also be dispiriting to some, and inhibit their quest for spiritual health (Burkhart, 1989). Spirituality, therefore, may be expressed through the institution of religion, but it cannot be restricted to that more narrow range of doctrine and practice. Spirituality does not exist in the same institutional form as religion (Mitroff & Denton, 1999a), so it cannot be used as a channel for religious expression. However, the themes of spirituality on a personal and individual level may be helpful to some as they seek to express their religious beliefs and practices (Moore, 2003). There is certainly the potential for overlap between religion and spirituality, yet both constructs retain unique and proprietary areas and understandings (Mitroff & Denton, 1999b); this permits the collection of social-scientific data for each variable in this study.

2.5 SPIRITUALITY AND CORRUPTION

The overall topic of spirituality is not very well researched, especially within the western scientific community, with its historic deference for the hard sciences. Even as the perceived “softer” social sciences gained legitimacy and respect in the broader scientific community, esteem was still most reserved for studies of the observable. Mitroff and Denton (1999a, p. 27) write that “Western science concentrates almost exclusively on the outer dimensions of reality, [whereas] Western spirituality focuses almost exclusively on the inner dimension”. This largely un-bridged chasm between these dimensions helps explain why “spirituality has been avoided for so long by the field of organizational science as a serious topic for empirical and systematic study” (Mitroff & Denton, 1999a, p. xiv). Yet every person takes their entire self (inner and outer) into every aspect of their lives, whether in relationships, or at work or play. The inner self can either be fed or starved by each encounter, and it can either add or detract value from each environment. In other words, our spirituality is an important part of who we are and how we behave and interact; all critical topics for scientific research. Furthermore, there is a growing awareness of how the inner self is expressed in outward forms that now present opportunities to observe, document, and analyze spirituality. There appears to be mounting recognition of the importance of the inner self in various domains of life, as evidenced by the increasing (but still limited) number of studies appearing each year expanding our knowledge of spirituality and its impact on such social issues as crime, war and peace, organizations, health and healing. This final section of the literature review will examine the literature on spirituality and consider its implications for corruption.

One strand of the literature on spirituality focuses on its impact on health and healing. There is recognition by many in the health profession that dissonance of the inner self can

contribute to poor health, both psychologically (Cashwell & Young, 2005) and physically (Burkhart & Hogan, 2008). The understanding of exactly how spirituality contributes to health, and the potential channels through which it may work, is still incomplete and continues to be researched. Studies have also shown consistently observed inverse relationships between spirituality and suicide (Josephson, 2007), and spirituality and addictions (Bliss, 2007). It is not surprising, then, that the incorporation of spirituality into health treatment practices is becoming much more intensive. Recent research studies have pointing to the importance of using spirituality therapies in nursing care (Burkhart & Hogan, 2008), counseling (Briggs & Rayle, 2005), and in the treatment of mental health (Bassett, Lloyd & Tse, 2008; Yurkovich & Lattergrass, 2008), suicide prevention (Peteet, 2007), and addictions (Greene et al., 2003; Cook, 2004).

Another strand in the literature focuses on spirituality in the workplace. “If spirituality is in large part what defines us and if work also plays a large role in our definition of who we are, why then has there not been more systematic study of spirituality as it relates to the workplace?” This is the question Ian Mitroff and Elizabeth Denton (1999a, p. 15) found themselves asking after years of research and consulting on organizational behavior and management. After further study and reflection, they came to the conclusion that today’s organizations are suffering from a deep, spiritual emptiness. Furthermore, it is suggested that all the conventional techniques designed to improve organizational effectiveness are themselves ineffective at securing organizational change unless, and until, companies find ways to integrate the personal beliefs of their employees with organizational values (Mitroff & Denton, 1999a; Guillory, 2000).

Steven Heine (2008) refers to this new approach as “Neo-Philosophy”, which emphasizes the role of self-discovery and self-control in the workplace, which he suggests is an intriguing

convergence of Eastern and Western outlooks. Conducting both conceptual and empirical research, Strack and Fottler (2002, p. 16) demonstrate “a strong link between actualized spirituality and effective leadership; effective leaders use their spiritual wisdom, intelligence, and power to benefit others and achieve outstanding results for their organizations”. From an individual organizational perspective, infusing spirituality into leadership and motivational techniques can improve “interpersonal relations along with persuasive communication skills to foster individual creativity while also building teamwork and cooperation” (Heine, 2008, p. 128). From a global perspective, the virtues of spirituality provide a common language and understanding that bridges differences across cultures. In a similar vein, Fahri Karakas (2006) suggests that spirituality within organizations provides a set of common universal values, which promotes more effective global dialogue and can potentially contribute to peace efforts across cultures and regions.

Bygrave and Macmillan (2008) apply this concept to the different perspectives and workplace expectations between the American and European models. They chronicle the American Dream, based on the individual right to freedom, which they suggest has now become excessively materialistic, individualistic, and self-serving. They contrast this model with the European Dream, which has led to more self-giving, humane treatment of others, and more equitable distribution of resources. Bygrave and Macmillan (2008, p. 93) expect that Americans will need to transition from their “short-run materialistic mindset toward a more humanist long-run perspective”, and they propose that spirituality in the workplace may be the only conduit sufficient to facilitate this evolution. Other writers, from a Western Christian perspective (Maxwell, 1993; Norgaard, 2005; O’Toole, 2005), agree with the need to work toward

incorporating into the workplace the “virtues of humility, moderation, and frugality, as well as the accepting of responsibility and leading with a sense of justice and fair play” (Heine, 2008).

It has been a challenge to measure and document levels of spirituality in the workplace, and Mitroff and Denton (1999a) were the first researchers to present hard scientific data on the effect of spirituality on organizations (private, for-profit). What they found is that “spirituality is one of the most important determinants of organizational performance. People who are more spiritually involved achieve better results”, and they report that “our data contain some of the strongest statistical findings we have ever witnessed” (Mitroff & Denton, 1999a, p. xiv). Since the Mitroff and Denton study, several psychometric tests have been developed, tested, and calibrated to effectively measure spirituality (see Beazley, 1998; Zohar & Marshall, 2004).

The final stand of literature to be reviewed in this section is the link between spirituality and crime. This is also a relatively new area of research, but some patterns are beginning to develop. On the question of whether or not higher levels of spirituality might prevent crime, there are some mixed results. Fernander et al. (2005) found that convicted criminals who scored higher on spirituality measures were more likely to have committed crime against property, and less likely to have committed crime against another person; they were also less likely to have committed a drug-related offense. When convicted criminals were provided rehabilitation involving spiritual strengthening, Alexander et al. (2003) and Giordano et al. (2008) found reduced rates of recidivism after release from incarceration. Finally, there is a growing area of literature in favor of restorative justice versus retributive justice, with spirituality being a significant element in the restorative process (Johnson, 2004; Judah & Bryant, 2004). Restorative justice is designed not only to reconcile perpetrator and victim (or victim’s family),

but also to treat the wounds of crime in ways that help all persons involved become better contributors to society.

The largest portion of the literature on spirituality addresses the relationship between spirituality and religion; this has been reviewed in the subsection above, to the extent that it is relevant to this study. A thorough search of the literature on spirituality did not unearth research in the specific areas of public sector organization and management, or of public sector corruption. There are some notable pieces in the literature on the connection between religion and governance (see Falk, 2001; Mead, 2006), and religion and corruption (see Paldam, 2001; Woodberry & Shah, 2004), which may address the overlap portions of spirituality and religion, but as this review has demonstrated, there is a large and significant portion of spirituality that lies outside the bounds of religion. However, the above review on several strands of the literature on spirituality provides conceptual evidence that the study of spirituality and corruption is worth undertaking. With empirical evidence showing the impact of spirituality on health, workplace behavior, organizational management and leadership, and crime, it is clear that spirituality must have an impact on public sector corruption. This dissertation will contribute to this gap in the literature.

2.6 SUMMARY OF LITERATURE REVIEW

This literature review has built the case that public sector corruption is indeed an impediment to economic growth and development, and increasing living standards in low income countries (LICs), even with recognition that there is also reverse causality at play. The review substantiated that there is a significant literature on corruption, but that a full understanding of *all*

the causes of corruption is not yet complete. A recent, but emerging, literature and research base on *religion* and *spirituality* was analyzed to formulate the argument that there is reasonable cause to believe that these issues have an impact on corruption; unfortunately, the review also confirmed that significant gaps exist in the research and literature on the relationships between *religion* and *corruption*, and *spirituality* and *corruption*. Finally, the literature review has demonstrated that while religion and spirituality are closely related conceptions, and there is some overlap between the two, their unique dimensions show different affects in their distinctive relationships with corruption. This dissertation project will contribute to the knowledge and definition of these concepts and further refine the differentiation between religion and spirituality by analyzing their links with public sector corruption.

3.0 CHAPTER THREE: DATA AND RESEARCH METHODOLOGY

This chapter explains the variables used in this study, the data obtained and compiled to operationalize the variables, and the methodology by which the analysis is conducted. Section 3.1 highlights the broad research parameters of this study and then reviews the specific research questions and hypotheses. Section 3.2 explains the origin of the data, methods by which it was obtained, the strength and reliability of the data and source, and restrictions and permissions for use in this study. Section 3.3 outlines the process of construction of the datasets, addresses the issue of sample size, and explains the major variables used in this study and how they were operationalized for further analysis, including the procedures employed for pre-analysis data screening. Section 3.4 explains the sequence of analysis and the research models employed, including description and rationale. Section 3.5 addresses issues of measurement reliability and validity, and finally section 3.6 discusses various limitations of the methodology. Sample size and implications will be addressed primarily in Section 3.3, but also in other areas throughout this chapter where relevant to each of the chapter sections.

3.1 RESEARCH PARAMETERS, QUESTIONS & HYPOTHESES

Both religion and spirituality can be measured as a state of being (belief and commitment) and as an expression (how belief and commitment is acted upon). In addition, religion can be measured

in terms of group membership, as in which religion does a person claim, and this is the one dimension of these two variables that is most researched in relation to public sector corruption. This study will focus on the other four dimensions of religiosity (state of being), religious expression, spirituality (state of being), and spiritual expression, and the methodology will differentiate along this classification and analyze each of these measures independently.

The analysis will begin with a test of relationship between corruption and economic growth by conducting a bivariate linear regression using Transparency International's Corruption Perception Index (CPI) as a proxy for corruption, and the number of days it takes to start a business as one contributing factor of economic growth. The analysis will proceed to bivariate and multiple regression tests to explore the relationships between 1) religion and corruption, and 2) spirituality and corruption (these variables will be defined in the next section), while controlling for other variables with known/documented influence on these variables and constructs. Finally, causal models will be developed using path analysis to estimate causal relations among variables in hypothesized models. This broad overview of the research provides the context for consideration of the specific research questions:

Research Questions:

1. What impact does corruption have on economic growth?
2. What impact does religion (as religiosity) have on corruption?
3. What impact does religion (as religious expression) have on corruption?
4. What impact does spirituality have on corruption?
5. What impact does spirituality (as spiritual expression) have on corruption?

The research questions emerge from the literature review, and the results and interpretation of previous studies and analysis inform the hypotheses for this dissertation research. In the

tradition of the hypothetical deductive model, each research question is tested against a null hypothesis and an alternative hypothesis:

Research Hypotheses:

Spirituality and Corruption:

H1_O: for countries with different measures of spirituality, there will be no significant difference in measured levels of corruption.

H1_A: for countries with different measures of spirituality, there will be significant difference in measured levels of corruption.

Spirituality and Corruption (with Spirituality measured by Spiritual Expression):

H2_O: for countries with different measures of spiritual expression, there will be no significant difference in measured levels of corruption.

H2_A: for countries with different measures of spiritual expression, there will be significant difference in measured levels of corruption.

Religion and Corruption (with Religion measured by Religiosity):

H3_O: for countries with different measures of religiosity, there will be no significant difference in measured levels of corruption.

H3_A: for countries with different measures of religiosity, there will be significant difference in measured levels of corruption.

Religion and Corruption (with Religion measured by Religious Expression):

H4_O: for countries with different measures of religious expression, there will be no significant difference in measured levels of corruption.

H4_A: for countries with different measures of religious expression, there will be significant difference in measured levels of corruption.

Corruption and Growth (as measured by Living Standards):

H5_O: for countries with different measures of corruption, there will be no significant difference in measured levels of living standards.

H5_A: for countries with different measures of corruption, there will be significant difference in measured levels of living standards.

3.2 RESEARCH DATA AND SOURCES

Data for this research project have been obtained from several different sources. This section will provide relevant information on each of these data sources with an assessment of the strength and reliability of the data, methods of collection and categorization, and permission stipulations impacting use in this analysis. Two datasets were constructed, hereinafter referred to as the *primary* dataset and the *secondary* dataset. The analysis of religion, spirituality and corruption, is limited in sample size by the number of countries for which data on religion and spirituality is available from the World Values Survey (WVS). However, the analysis of corruption and economic growth is limited in sample size by the number of countries for which data on corruption is available from Transparency International; this is a much larger sample size than the dataset limited by WVS data. The *primary* dataset is used for all statistical test and analyses among all the variables of this study. The *secondary* dataset is employed to confirm and triangulate the output of the analyses on corruption and living standards from the primary dataset, and to provide more comprehensive visual aids showing the interaction between these two variables.

3.2.1 Corruption Data

Transparency International (TI) is the source for the corruption data used in this analysis, and the Corruption Perceptions Index (CPI) is the unit of measure for national-level public sector corruption. The CPI focuses on corruption in the public sector only, though in recent years TI has added some additional indices to complement the CPI, some of which now address corruption in the private sector. As a *perceptions* index, the CPI measures the degree to which

corruption is *perceived* to exist among public officials and politicians. The reason *perceptions* of corruption are used is the inherent difficulty and poor reliability of collecting actual corruption data. One reason for this is that perpetrators try to keep illegal and immoral activity hidden and, secondly, variations in enforcement, rule of law, and prosecutions across countries severely limits the usefulness of collection and comparison of actual corruption data.

The CPI is a composite index, a poll of polls, drawing on corruption-related data from expert and business surveys carried out by a variety of independent and reputable institutions, including: the Asian Development Bank, the African Development Bank, Bertelsmann Foundation, World Bank (IDA and IBRD), Economist Intelligence Unit, Freedom House, Global Insight, IMD International (World Competitiveness Center), Merchant International Group, Political and Economic Risk Consultancy, United Nations Economic Commission for Africa, and World Economic Forum. The data is checked across sources, where available, to confirm the reliability of each source and composite score. The twelve independent agencies that provide corruption data to TI do so without charge, adding further integrity to the process. TI evaluates the data on strict reliability standards, and excludes any data that mixes corruption with any other issue; this is to ensure the greatest chance of independence from political influences. The CPI reflects views from around the world, including those of experts and business leaders who are living in the countries evaluated. The statistical reliability of the process of collection and calculation of the CPI allow Transparency International to report individual country scores in the 90% confidence range. To maintain integrity and quality of the CPI, its methodology is “reviewed by an Index Advisory Committee consisting of leading international experts in the fields of corruption, econometrics and statistics” (Transparency URL, 2008).

Transparency International is funded by various governmental agencies, international foundations and corporations, including Ernst & Young. However, TI claims that it “does not endorse a company’s policies by accepting its financial support, and does not involve any of its supporters in the management of its projects” (Transparency URL, 2008). The CPI has been compiled and published annually since 1995, and it has received prominent acclaim from many media and independent sources. It is recognized that the CPI is not the exact measure of corruption within each country, but given the realities of the subject, and the limitations of documenting its actual prevalence, the CPI is renowned as the best and most comprehensively available data source on public sector corruption. This claim is evidenced by its predominant use by most scholars researching corruption and related issues (see sample studies: Jong-Sung & Khagram, 2005; Li, Triandis & Yu, 2006; Connolly, 2008).

The most recently published CPI (2007) as of this writing is used for the secondary dataset of this analysis. The primary dataset is driven by the values data available from the World Values Survey (WVS) organization, which collects data in five-year waves. The most recently published WVS data is from the 1999-2004 wave, including data for 66 countries in various years within the entire five-year range. To fairly evaluate the relationship between values data and corruption in a cross-country analysis, the CPI data was selected for each country to correspond with the year in which the WVS data were collected. Because this analysis explores causal relationships among variables, a careful assessment of causal sequence required that the time period for which WVS data were collected needed to precede the time period for which the CPI was measured; this was accomplished with in-depth knowledge of the data collection, processing, and publication dates of the two agencies. Most of the countries clustered

within the three-year range of 1999-2002, with only two countries surveyed in 2003 (Kyrgyzstan and Saudi Arabia) and only one country in 2004 (Iraq).

Transparency International adheres to strict ethical and regulatory mandates in the process of collecting data, ensuring reasonable protections to human research participants. TI provides free access and use of their published indices by third parties, and all CPI data used in this study were collected from the TI website: www.transparency.org.

3.2.2 World Values Survey Data

The World Values Survey (WVS) organization is the source for data on religiosity, religious expression, spirituality and spiritual expression. The WVS organization has been collecting “values” data since the early 1980s in five-year periods, referred to as *waves*, and additional countries have been added to the sample with each new wave. The most recent wave of the WVS data collection (1999-2004) has yielded extensive survey data in 66 countries throughout every region of the world and, important for this study, the countries spread quite evenly across the full range of CPI scores for the period in question. Initially 58 of the hundreds of questions on the survey were identified as being relevant to the variables selected for this study, and these were operationalized and compiled in the primary dataset. Additional information on this process is provided in the *variables* section below, but first an assessment of original data collection methods.

The aim and purpose of the World Values Survey (WVS) organization is to attain a broad understanding of socio-political trends among adults around the world. To accomplish this goal data are collected by conducting personal interviews, following a survey instrument established for each particular wave, with some careful adaptations for cultural-linguistic understanding.

Interviewers are selected to represent proportional characteristics of the population for each country, and they undergo training sessions to prepare them for the interview process. Interviews are carried out face-to-face in the home of the respondent, whenever possible, and effort is made to complete the interview/survey in a single visit.

The original WVS survey is written in English, though it is translated to the local language of each country/region before implementation. Translated surveys are either back-translated to English, or pre-tested, to confirm the validity of the translation. Questions and concepts from the surveys may also be adjusted by host-country researchers to obtain the nearest possible language and cultural meaning and translation. The original surveys are created and tested by research methodologists and statisticians, and the survey implementation and data collection processes are supervised and guided by academicians within each host country.

The survey methodology is designed to be nationally representative of the adult population of each country. The age designation for adult classification is in most cases age 18+, but age 16+ is employed in some countries, and this seemed to be culturally relevant. Sample sizes for each country are chosen to be representative of the entire adult population with minimal sampling error; these samples ranged from 968 to 3,401 interviews across the countries in the most recent wave. Sampling method was multistage random probability within predefined representative groupings to incorporate characteristics of the surveyed universe: male/female, urban/rural, age, education, and national affiliation or region (WVS URL, 2008). The WVS data are the most comprehensive archives of socio-cultural data, and the careful design, methodology, and implementation of the collection tools provides relatively high levels of quality and reliability. Worldwide recognition of WVS data as the premier source for global values data is

also evidenced by the many studies making use of this resource (see sample studies: Meisenberg, 2008; Bonini, 2008; Alanezi & Sherkat, 2008).

The World Values Survey organization publishes its survey data on its website at www.worldvaluessurvey.com, and it is made available without restrictions or charge, for not-for-profit purposes. WVS adheres to strict ethical and regulatory mandates in the process of interviewing subjects, ensuring reasonable protections to human research participants.

3.2.3 Living Standards Data

Gross Domestic Product (GDP) per capita is used in this study as a proxy for living standards. It should be recognized at the outset that per capita GDP is not a perfect measure of living standards; because it averages national income across total country population, it does not provide any indication for how income may be distributed within that country. It is fully acknowledged that poverty and low living standards exist in every country of the world, even when a measure of GDP per capita may suggest otherwise. A second limitation of GDP per capita as a measure of living standards is that it is solely income based, and living standards are determined by much more than simply income. For example, even if income may be high, threats of security, environmental degradation, or other non-income factors could diminish a more wholistic account of living standards.

A third concern about using GDP per capita as a proxy for living standards, especially when comparing across countries and regions, is the variance in cost of living from one economy to the next. To account for some of this variance, the Purchasing Power Parity (PPP) GDP per capita is used, which provides an adjustment for cost of living differences, but only at the national level. Not only is the PPP adjustment imperfect in accounting for different national-

level cost of living variances, but it provides no adjustment at all for variance in the cost of living within a country, either by region, or for urban/rural discrepancies. With all these concerns and limitations about GDP per capita (PPP) data, why would such an imperfect measure be employed as a proxy for living standards? Unfortunately, however imperfect the measure may be, it is still one of the best available statistics to use for this purpose, especially in a global study addressing comparisons across countries and regions. The GDP per Capita (PPP) does reflect the general living standard for a good percentage of the population, especially when the measure is very low.

The CIA World Factbook is the source for GDP per capita data in this study, both for official exchange rate (OER) and PPP measures. The United States has been collecting and organizing global data since independence more than 230 years ago, but just since WWII has this effort been coordinated on a government-wide basis, with information provided for policy purposes. “The first classified *Factbook* was published in August 1962, and the first unclassified version was published in June 1971” (CIA World Factbook URL, 2008). The gross domestic product is the value of all final goods and services produced within a nation in a given year. The OER measure of GDP “is the home-currency-denominated annual GDP figure divided by the bilateral average US exchange rate with that country in that year. [...] A nation's GDP at purchasing power parity (PPP) exchange rates is the sum value of all goods and services produced in the country valued at prices prevailing in the United States” (CIA World Factbook URL, 2008). Calculating PPP GDP is a difficult task, and requires judgments to be made on the value of goods and service. However, though this process may lack precision, it accounts for problems of exchange rate reliability in the OER measure, and it is a better indication of living standards when comparing living standards across countries.

The CIA relies on many different sources for the collection of its data; many of these are listed on the CIA website (www.cia.gov) but are too numerous to list here. The CIA places no restrictions on the use of its *Factbook* data; it is in the public domain and may be copied freely without permission of the Central Intelligence Agency. The CIA World Factbook is often cited as the source in studies involving GDP, and other factors, and its widespread use in scholarly research is indication of its general acceptance and reliability (see sample studies: Sullivan, 2001; Green, 2001; Wang & Zaniolo, 2008).

3.2.4 Business Starts Data

The number of days it takes to start a business in a country is one of several contributing factors of overall economic growth. There are many different factors that contribute to economic performance in any given society, some of which are inextricably linked and influenced by public sector corruption, while other factors remain unrelated to corruption (factors of production, markets, geography, politics, etc.). “Business starts approval data” was chosen for this study because it is clearly impacted by the functioning of the public sector on the one hand, and it’s measure clearly affects economic growth on the other. This “business starts” data was collected from Doing Business, a project and publication of the World Bank and the International Finance Corporation which claims to “provide objective measures of business regulations and their enforcement across 178 countries” (Doing Business URL, 2008). Doing Business publishes an annual ranking of countries based on an index of how easy it is to do business in each country, and one component of the index is the variable used in this study; *the number of days it takes to start a business*. This measure was selected for two critical reasons. First, because the result of this measure is fully dependent on the public sector to process and

approve new business applications, and the procedures and timeliness of action are fully dependent on the efficiency and integrity of the bureaucratic process. The second reason for selecting this measure is that it is thought to be nearly completely irrelevant from the religion and spirituality independent variables in this study, and this provides an isolation of the interactions that cause corruption from the consequences of corruption. Doing Business and its umbrella organizations, the World Bank and International Finance Corporation, adhere to strict ethical and regulatory mandates in the process of collecting data, ensuring reasonable protections to human research participants.

3.2.5 Other Data

Data were also collected from three other sources at the beginning of this study, but these assumed a lesser role in the analysis. Religious membership data were obtained from the Association of Religious Data Archives (ARDA); this data is available on its website (www.thearda.com) without restriction or cost. The Index of Economic Freedom was obtained from the website of the Heritage Foundation (www.heritage.org), also at no cost or restrictions. Finally, the Index of Political Freedom was provided by Freedom House on their website (www.freedomhouse.org) without cost or restrictions. These three organizations are well regarded in the research community, and the data they provide are employed in numerous studies each year. All three organizations adhere to strict ethical and regulatory mandates in the process of collecting data, ensuring reasonable protections to human research participants.

3.3 CONSTRUCTING THE DATASETS

This section of Chapter Three describes the constructing of the datasets, and since this study employs two datasets, each is described in turn in the first two subsections. The third subsection addresses the issue of sample size, followed by a description of the research variables, and the final subsection outlines the procedures used in pre-analysis data screening.

3.3.1 Primary Dataset

The data for this study were collected from several sources, as noted above. The full dataset in the 1999-2004 wave of the World Values Survey (WVS) includes far more data than is relevant or needed for this study. Relevant variables for this analysis were identified and selected following a careful review of the entire survey, including all sections and questions. The data for the selected variables was then transferred from the WVS Online Data Analysis tool and inserted into a master Excel spreadsheet document as the first step in constructing the primary dataset. The WVS organization collected data on 66 countries in the 1999-2004 Wave, and this determined the sample size for the primary dataset. The WVS data were also collected in various years within the five-year Wave (all but three countries in the three-year span of 1999-2001), and the year of collection for each country was logged for matching time-relevant data from other sources.

The corruption data was added to the primary dataset in the following manner. The corruption perceptions index (CPI) score was obtained for each country from Transparency International's (TI) online CPI archives, by referencing the year of collection for the index with the year of collection for the WVS data, retaining time-lapsed causal sequencing. This process

of harmonizing time-relevant data is necessary not only to analyze causal links, but because data is being compared and analyzed from multiple independent organizations, each with their own standards and timelines of data collection, processing and publication. While values and corruption levels do not change rapidly, it is important that the analysis compare data from similar and sequential time frames to document relational and causal links. Fortunately, the methodology of data collection and analysis was consistent and stable for both organizations (WVS and TI) throughout the entire five-year period.

Data for other variables (and sources) were collected and added in the same way, referenced by the year of collection of the WVS data for each country in the primary dataset. This included data on GDP (PPP) per capita (World Factbook), how many days it takes to start a business (Doing Business), religious affiliation (The Association of Religious Data Archives), economic freedom (Heritage Foundation), and political freedom (Freedom House). In addition to data on religion, religiosity, religious expression, spirituality and spiritual expression obtained from the WVS, data were also added in the areas of perceptions of life, environment, work, education, family, politics and society, national identity, and socio-demographics.

Many of the independent variables in this study can be measured across different dimensions of the variable. Consider “religiosity”, for example; different dimensions might include how many people claim to be religious, how many believe in “god”, and how important is “god” in their life? The WVS includes data on many of these individual dimensions, and each one is tested independently in the analysis. However, in order to account for many of the various dimensions in a summary variable, composite variables were created by adding the data across all dimensions of a single variable. This first required a re-scaling of some of the single-dimension variables so as to give equal weight to each dimension in the composite variable.

Composite variables were calculated for corruption, religiosity, religious expression, spirituality, and spiritual expression. The final step in the construction of the primary dataset was to import the data from the Excel spreadsheet format into an SPSS (v. 15.0) data file for data screening and statistical analysis.

3.3.2 Secondary Dataset

A secondary dataset was constructed to test some of the secondary questions of this research project and specifically to provide more comprehensive graphical representation of the relationships between corruption, economic growth and living standards. The data for the secondary dataset were collected from just three sources. This began by downloading 2007 CPI scores from Transparency International's (TI) website into an Excel spreadsheet document. The next step added GDP per capita (both OER and PPP measures) data from the 2007 World Factbook. Finally, 2007 "business start" data was obtained from the Doing Business website (www.doingbusiness.org) and added to the spreadsheet. The sample size for this dataset was determined by the number of countries for which reliable data exists; in 2007 the Doing Business index included 178 economies, and the TI CPI included 180 countries.

Composite variables were not needed or generated in this secondary dataset; therefore no scale-adjustments on any of the variables were conducted. The final step in the construction of the secondary dataset was to import the data from the Excel spreadsheet format into an SPSS (v. 15.0) data file for data screening and statistical analysis.

3.3.3 Sample Size

The sample size is important, in relation to its universe, for determining sampling error and confidence levels in drawing inferences from the study back to the total population (Israel, 2003). Three criteria need to be addressed to determine the appropriate sample size: the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured (Miaoulis and Michener, 1976). In the case of this study, the sample size is set by the number of countries for which reliable data is available; this requires working backward from the sample size to determine which combination of the three criteria is most appropriate for the analysis. In other words, how accurate are the survey results, given the size of the universe and sample?

As this analysis employs cross-sectional, cross-country methodology, the universe for this study is the total number of countries. It may be surprising that there is not universal agreement on the number of countries in the world, and that the number varies periodically with geopolitical events and changes. Most sources as of mid-2008 place the number between 185 and 195, but for the purpose of this study the number of 192 countries will be used as the universe; this represents the number of countries recognized by the United Nations as of May 1, 2008 (World Atlas URL, 2008).

For analysis using the primary dataset, the universe is 192 and the sample is 66; this is the number of countries for which WVS data is available in the most recent (1999-2004) wave of data collection. The accuracy of the results, given these parameters, can either be calculated with a formula, or drawn from sample tables. The best combination of confidence level and confidence interval for this sample and universe size is 95% and 9.8%, respectively. The result of the analysis, using the primary dataset, will therefore be reported with 95% confidence, with

tolerance for error of 9.8%. The degree of variability of the data is not known at the outset; this will be assumed to be within normal range for now, and this third criterion will be evaluated in the analysis stage. The sample size of the primary dataset, and the level of precision it enables in the study, provides useable scientific and statistical strength, though the tolerance for error would diminish progressively with larger samples, which would preferably strengthen the results. Given the enormous undertaking of collecting nationally-representative political and socio-cultural data around the world, it is not surprising that only 66 countries are included in the most recent WVS wave, and for a study of this field, scope and methodology, this project returns useful results and expanded levels of understanding.

For analysis using the secondary dataset, the sample is 178 countries out of 192, nearly the entire universe. The best combination of confidence level and confidence interval for this sample and universe size is 99% and 2.4%, respectively. The result of the analysis, using the secondary dataset, will therefore be reported with 99% confidence, with tolerance for error of 2.4%. The sample size provides exceedingly strong scientific and statistical strength.

3.3.4 Research Variables

This subsection lists each of the variables operationalized for this study, categorized by the area of interest. This list represents the raw data obtained from the various identified sources and organized in the dataset prior to any screening procedures. Composite and scale-adjusted variables are included on this list and are identified accordingly:

Table 3.1 Raw Data Variables

Cat.	Var. Name	Description of the Variable	Source
Corruption			
	CPI	Corruption perception index	TI
	MostTrust	Percent responding that most people can be trusted	WVS
	Freedom	How much freedom of choice and control do you have?	WVS
	=Freedom	Scale adjusted version of above variable	WVS-adj.
	ConfPolice	Percent indicating confidence in the police force	WVS
	ConfCivServ	Percent indicating confidence in the civil service	WVS
	ConfGovt	Percent indicating confidence in the government	WVS
	SatPeoNatl	Percent indicating confidence in people in national office	WVS
	StartBusi	Number of days it takes to start a business	DB
	=StartBusi	Scale adjusted version of above variable	DB-adj.
	ComCor1	Composite (MostTrust, =Freedom, ConfPolice, ConfCivServ, =StartBusi)	Various
	ComCor2	Composite (MostTrust, =Freedom, ConfCivServ, =StartBusi)	Various
Living Standards			
	gdpcapppp	GDP per capita (PPP)	WFB
	gdpcapoer	GDP per capita (OER)	WFB
Religion (group membership)			
	RelPerChr	Religion: percent Christian	ARDA
	RelPerBah	Religion: percent Bahai	ARDA
	RelPerBud	Religion: percent Buddhist	ARDA
	RelPerCU	Religion: percent Chinese Universism	ARDA
	RelPerHin	Religion: percent Hindu	ARDA
	RelPerSpir	Religion: percent Spiritism or Spiritualism	ARDA
	RelPerJew	Religion: percent Jewish	ARDA
	RelPerMus	Religion: percent Muslim	ARDA
	RelCatagor	Religion: category	ARDA
Religiosity			
	NonRelPer	Percent claiming to be non-religious	WVS
	AtheistPer	Percent claiming to be atheist	WVS
	RelPercent	Percent claiming to be religious	WVS
	BelievGod	Percent claiming to believe in "god"	WVS
	BelievSoul	Percent claiming to believe that people have a soul	WVS
	ImpGodLife	How important is "god" in your life	WVS
	=ImpGodLife	Scale adjusted version of above variable	WVS-adj.
	ImpGodPer	Percent claiming that "god" is "very" important in their life	WVS
	ComRel1	Composite (RelPercent, BelievGod, =ImpGodLife)	WVS
	ComRel2	Composite (RelPercent, BelievGod, ImpGodPer)	WVS
Religious Expression			
	RelServAtt	Percent attending religious services 1/wk or more on avg.	WVS
	PrayGodO	Percent pray to "god" 1/wk or more on average	WVS
	ComfFRel	Percent claiming get comfort and strength from religion	WVS
	ImpRelLife	How important is religion in your life?	WVS
	=ImpRelLife	Scale adjusted version of above variable	WVS-adj.
	ImpRelVR	Percent claiming religion "very" & "rather" important in life	WVS
	LeiPeoChur	Leisure time spent with people from church, mosque, etc.	WVS

Table 3.1 Continued

=LeiPeoChur	Scale adjusted version of above variable	WVS-adj.
BelRelOrg	Percent claiming belonging to a religious organization	WVS
UnpaidRel	Percent participating in unpaid work for religious organization	WVS
ComRE1	Composite (RelServAtt, PrayGodOut, ComfFRel, =ImpRelLife, =LeiPeoChur)	WVS
ComRE2	Composite (RelServAtt, ComfFRel, ImpRelVR)	WVS
Spirituality		
PrayMedit	Percent claiming they take moments for prayer, meditation, contemplation	WVS
HumVsNat	Percent claiming that humans should coexist, not master, nature	WVS
EnvVsEcon	Percent claiming priority for environmental protection over econ. growth	WVS
EnvVsIncome	Percent claiming they would give part of income for environment	WVS
EnvVsTax	Percent agree to increase tax for environmental protection	WVS
EnvGovern	Percent claiming govt. should protect the environment at no cost to me	WVS
MeanPurM	Do you think about the meaning and purpose of life? (mean score)	WVS
MeanPurP	Percent thinking about the meaning and purpose of life "often"	WVS
ComSP1	Composite (PrayMedit, MeanPurP)	WVS
ComSP2	Composite (PrayMedit, EnvVsIncome, MeanPurP)	WVS
Spiritual Expression		
ImpServLife	Importance of service to others in your life	WVS
ImpServLifeVR	Percent claiming service to others "very" & "rather" important	WVS
Unselfishness	Percent claiming important to teach children unselfishness at home	WVS
LeiComOrg	Leisure time spent with people from culture & community organizations	WVS
=LeiComOrg	Scale adjusted version of above variable	WVS-adj.
BelWelOrg	Percent claiming belonging to social welfare service for elderly	WVS
BelHumRig	Percent claiming belonging to human rights organization	WVS
BelConEnv	Percent belonging to conservation, environmental, & ecology organization	WVS
BelYouth	Percent belonging to youth work organization	WVS
BelPeace	Percent belonging to peace movement organization	WVS
UnpaidSW	Percent doing unpaid work social welfare organizations	WVS
UnpaidHR	Percent doing unpaid work for human rights organizations	WVS
UnpaidEnv	Percent doing unpaid work for environmental organizations	WVS
UnpaidPeace	Percent doing unpaid work for peace promotion organizations	WVS
ComSE1	Composite (Unselfish, =LieComOrg)	WVS
ComSE2	Composite (ImpServVR, Unselfish, =LeiComOrg, BelWelOrg)	WVS
Other Misc.		
EconFreed	Economic freedom index	HF
PolFreedom	Political freedom index	FH
EdPerPri	Percent attaining primary as highest level of education completed	WVS
EdPerSec	Percent attaining secondary as highest level of ed. completed	WVS
EdPerBA	Percent attaining B.A. as highest level of education completed	WVS
ChurSpirN	Percent claiming church is meeting people's spiritual needs	WVS
RelPublOff	Percent claiming better if more religious people in public office	WVS
BribeAccep	Is it justifiable for someone to accept a bribe? (mean score)	WVS
BribePercent	Percent claiming "never" acceptable for accepting a bribe	WVS
ConfChurch	Percent confident (a great deal and quite a lot) in churches	WVS
ConfEnvProt	Percent confident (a great deal and quite a lot) in environ. prot. movement	WVS

Table 3.1 Continued

Source Key	
TI	Transparency International
WVS	World Values Survey
WVS-adj.	World Values Survey, scale-adjusted
DB	Doing Business
DB-adj.	Doing Business, scale-adjusted
Various	Mix of sources to construct composite variable
WFB	World Factbook (CIA)
ARDA	Association of Religious Data Archives
HF	Heritage Foundation
FH	Freedom House

3.3.5 Pre-Analysis Data Screening

Bivariate scatterplot matrices were generated for each variable drawn from all data sources, against both CPI and GDP/Cap (PPP), and a visual analysis of broad relational tendencies was conducted. This procedure was an important precursor to the decision-making process on constructing composite variables. Variables that were reversed in scale, meaning higher or stronger values scaled to the low side of the score range, were reflected. In addition, variables not on a 0-100 point/percentage scale were scale-adjusted to that standard if they were to be included in computing composite variables. Composite variables were then computed to combine multiple variables within each research topic, taking care to ensure equal strength of influence for each variable relative to the others. The creation of composite variables is an important control for addressing the issue of multicollinearity (explained below) in multiple regression models by combining highly-correlated variables into one variable to measure a single construct (Stevens, 1992). Another way to address the problem of multicollinearity is to delete problematic variables from the analysis (Sprinthall, 2000), and this was done for some variables left out of the composite calculations.

The process for pre-analysis data screening included univariate screening for missing data, outliers, and normality. Variables with less than 5% missing values were left for *listwise* processing within the data analysis. For variables with between 5 and 15% missing values, the values were replaced using the mean method of replacement. Variables with more than 15% missing values were eliminated from statistical data analysis, although their broad relational links are used to explore paths for future and follow-up research. Most variables did not have any identified outliers, and the few that did had very few (less than 4). Where outliers were identified, these were replaced with the accepted minimum or maximum value. Normality was assessed for each variable independently, by generating histograms and statistical measures for skewness and kurtosis. Variables not meeting the assumption of normality were transformed using mathematical and statistical computing tools within SPSS, with the subsequent transformed variable checked again for normality assumptions. Multivariate pre-analysis data screening comprised of appraisal of linearity and homogeneity of variance-covariance; these were found to be within acceptable ranges, which confirmed successful transformations of single variables to ensure univariate normality.

Multicollinearity (moderate to high intercorrelations among predictor variables [IVs]) may be problematic for multivariate analysis since many of the variables in this study are measuring similar perspectives, though with nuanced differences. Multicollinearity was checked using Pearson's r , Tolerance or Variance Inflation Factor (VIF). For multiple regression analysis, variables that were too closely related were dealt with by either deleting one or more variables from the analysis, or combining two or more closely related variables into one composite variable. Stevens (1992) and Mertler and Vannatta (2002, p. 170) recommend a "ratio of subjects to IVs (i.e., n/k) of at least 15 to 1 [to] provide a reliable regression equation". The

use of up to four predictor variables (IVs) in the multiple regression analyses of this study complies with this important rule of thumb for the sample size of the primary dataset. At the completion of pre-analysis data screening, the following variables were deemed suitable for analysis:

Table 3.2 Variables after Data Screening

Cat.	Var. Name	Description of the Variable	Trans.
Corruption			
	CPI_1	TF Corruption Perceptions Index	SQRT
	CPI_2	TF Corruption Perceptions Index	LG10
	MostTrust_1	TF Percent responding that most people can be trusted	SQRT
	Freedom	How much freedom of choice and control do you have?	None
	Freedom_A	Scale adjusted version of above variable	None
	ConfPolice_1	TF Percent indicating confidence in the police force	SMEAN
	ConfCivServ_1	TF Percent indicating confidence in the civil service	SMEAN
	ConfGovt	Percent indicating confidence in the government	None
	StartBusi_1	TF Number of days it takes to start a business	LG10
	StartBusi_A_1	TF Scale adjusted version of above variable	SQRT(K-X)
	ComCor1_1	TF Composite (MostTrust, =Freedom, ConfPolice, ConfCivServ, =StartBusi)	SMEAN
	ComCor2_1	TF Composite (MostTrust, =Freedom, ConfCivServ, =StartBusi)	SMEAN
Living Standards			
	gdpcapppp_1	TF GDP per capita (PPP)	LG10
	gdpcapoer_1	TF GDP per capita (OER)	LG10
Religiosity			
	NonRelPer_1	TF Percent claiming to be non-religious	SQRT
	RelPercent_1	TF Percent claiming to be religious	SQRT(K-X)
	BelievGod_2	TF Percent claiming to believe in "god"	SQRT(K-X)
	ImpGodLife	How important is "god" in your life	None
	ImpGodLife_A	Scale adjusted version of above variable	None
	ComRel1_2	TF Composite (RelPercent, BelievGod, =ImpGodLife)	SQRT(K-X)
	ComRel2_2	TF Composite (RelPercent, BelievGod, ImpGodPer)	SQRT(K-X)
Religious Expression			
	RelServAtt_1	TF Percent attending religious services 1/wk or more on avg.	SQRT
	PrayGodO_1	TF Percent pray to "god" 1/wk or more on average	SMEAN
	ComfFRel_2	TF Percent claiming get comfort and strength from religion	SQRT(K-X)
	ImpRelLife	How important is religion in your life?	None
	ImpRelLife_A	Scale adjusted version of above variable	None
	ImpRelVR_1	TF Percent claiming religion "very" & "rather" important in life	SQRT(K-X)
	LeiPeoChur_3	TF Leisure time spent with people from church, mosque, etc.	SQRT(K-X)
	LeiPeoChur_2	TF Scale adjusted version of above variable	SQRT
	BelRelOrg_2	TF Percent claiming belonging to a religious organization	LG10
	UnpaidRel_2	TF Percent participating in unpaid work for religious organization	LG10
	ComRE1_1	TF Composite (RelServAtt, PrayGodOut, ComfFRel, =ImpRelLife, =LeiPeoChur)	SMEAN
	ComRE2_1	TF Composite (RelServAtt, ComfFRel, ImpRelVR)	SMEAN

Table 3.2 Continued

Spirituality		
PrayMedit_1	TF Percent claiming they take moments for prayer, meditation, contemplation	SMEAN
EnvVsInc_1	TF Percent claiming they would give part of income for environment	SMEAN
EnvVsTax_1	TF Percent agree to increase tax for environmental protection	SMEAN
EnvGovern_1	TF Percent claiming govt. should protect environment at no cost to me	SMEAN
MeanPurP_1	TF Percent thinking about the meaning and purpose of life "often"	SMEAN
Spiritual Expression		
Unselfishness	Percent claiming important to teach children unselfishness at home	None
LeiComOrg	Leisure time spent with people from culture & community organizations	None
LeiComOrg_A	Scale adjusted version of above variable	None
BelWelOrg_2	TF Percent claiming belonging to social welfare service for elderly	LG10
ComSE1_1	TF Composite (Unselfish, =LeiComOrg)	SMEAN
Other Misc.		
EconFreed	Economic freedom index	None
PolFreedom_1	TF Political freedom index	LG10
EdPerPri_2	TF Percent attaining primary as highest level of education completed	LG10(K-X)
EdPerSec	Percent attaining secondary as highest level of ed. completed	None
EdPerBA_1	TF Percent attaining B.A. as highest level of education completed	SQRT
ChurSpirN_1	TF Percent claiming church is meeting people's spiritual needs	SMEAN
RelPublOff_1	TF Percent claiming better if more religious people in public office	SMEAN
BribeAccep_2	TF Is it justifiable for someone to accept a bribe? (mean score)	LG10
BribePercent	Percent claiming "never" acceptable for accepting a bribe	None
ConfChurch_1	TF Percent confident (a great deal and quite a lot) in churches	SQRT(K-X)
Transformation Key:		
TF	Transformed Variable	
SQRT	Square Root	
LG10	Logarithm	
SMEAN	Series Mean Replacement	
SQRT(K-X)	Reflect and Square Root	
LG10(K-X)	Reflect and Logarithm	
None	No transformation necessary	

Initially 82 variables were identified and built into the two datasets, including ten composite variables. The pre-analysis data screening process predictably eliminated some of the variables, though still a good number of 53 variables were left for the analysis phase, including seven composite variables. It should be noted that the religious membership category was removed altogether from the analysis; in addition to some challenges with the data, the link between religion (membership) and corruption has more coverage in the literature than does religiosity and religious expression, which are the focus areas of religion in this study.

3.4 RESEARCH MODELS AND SEQUENCING

This dissertation employs *cross-sectional* (cross-country) analyses on *quantitative* data only. While time-series data and analyses would provide greater depth of understanding trends and causal effects, the data needed to explore the issues of this study do not yet have sufficient historical record in adequate sample sizes; the results would be weak and insignificant (Paldam, 2001). Transparency International (TI) and the World Values Survey (WVS) organization are expanding their assessment to more and more countries each year, and only recently have there been sufficient numbers to run cross-sectional analyses with moderately accurate and significant results. Adding *qualitative* data and analyses would strengthen a study of this kind, not only by contributing levels of understanding better suited to qualitative research, but also by confirming and triangulating the *quantitative* results. Qualitative data collection and analysis is beyond the scope of this project; however, it is recommended that qualitative research be considered as a follow-up to this project.

One of the important postmodern methodological approaches in the field of public administration, and indeed in many of the fields of social science, is an *emergent research design*. Frederickson and Smith (2003) describe it as “allow[ing] the research design to emerge (flow, cascade, unfold) rather than construct if preordinately (a priori)”. This process begins in the research conceptualization stage of a proposed study and progresses through the literature review, data collection, and even throughout the course of the data analysis phase. Many recent studies have both substantiated the emergent research design, and employed it with high acclaim (for examples, see Soss, 2000; Russell, 2002; Merz, 2002; Maynard-Moody & Musheno, 2003; Kass, 2003). This dissertation project employs an emergent research design and, as such, this methodology section is considered a roadmap with an ending point identified, but several

possible routes to follow. These routes were determined based on a progression of statistical tests and numerous points of assessment and evaluation along the way. With that understanding, it remains important to outline an initial route on which the analysis progressed, as well as to define the limits, or parameters, of the analysis.

The research methodology of this study proceeded in steps, employing descriptive, bivariate and multivariate analytic techniques in the following sequence: informal evaluation of the data, formal evaluation of the data (descriptive statistics), data screening techniques, correlation analysis including scatter plots, bivariate linear regression, multiple regression, and path analysis. Evaluation processes were conducted at the junction between each step to document findings from the most recent procedure and consider subsequent design modifications for the next. The evaluative process included careful assessment of various numerical and graphical output results and a comparison of the results with the model predictions. All statistical analyses were performed using SPSS, version 15.0 (SPSS, 2006).

Each hypothesis was tested independently of the others in the first part of the analysis as follows: Each hypothesis was tested initially by conducting a number of bivariate linear regression analyses to learn of relationships between different pairs of variables within each hypothesized model. The bivariate results were then evaluated, for each hypothesis in turn, to inform decisions on which variables to include in subsequent multiple regression models. The multiple regression analyses provided results of relative strength of relationship among variables by controlling for other independent variables that contribute to the prediction of the dependent variable. Emerging from the results of both bivariate and multiple regression tests, a hypothesized causal model was designed and analyzed using the path analysis testing procedure.

This culminating and final step tied together the research hypotheses that had previously being analyzed independently.

3.5 MEASUREMENT RELIABILITY AND VALIDITY

The results of any methodology and analysis are only as good as the measurements upon which they are based, and an evaluation of the reliability and validity of the measures is critical to the overall integrity of any study (Trochim, 2001). A number of factors determine the reliability and validity of measurements, and this subsection will review these factors in relation to the data used in this dissertation. Since all of the data obtained for this research project is secondary data, many of the measurement issues are beyond the control of this study. However, an assessment of the data and sources may validate the quality of the measures, and their appropriate application to the particular research questions being addressed. There are three broad topics concerning measurement reliability and validity, and these are addressed in the following three subsections.

3.5.1 Construct Validity

The first question to consider is construct validity; that is, does the data measure what it is intended to measure? The constructs being measured and analyzed in this study are both complex and immense. Corruption is deemed impossible to measure by taking count of actual, observed acts of corruption. Instead, corruption is measured by Transparency International as a perception of actual corruption by surveying many people who live, work, and interact with the

public sector, and who therefore possess knowledge and experience from which to provide an informed opinion. If living standards were to be measured with high levels of precision, a large number of different factors would be measured and combined, many of which would be context-specific. This analysis employs only one measure for living standards – GDP per capita (PPP) – because it is readily available, and it has proven to be valid in many studies as a blunt or general measure of living standards. Economic growth, or development, can also be assessed with many different measures, as well as for many different sectors of the economy independently. The number of days it takes to start a business has been selected as one contributing factor of economic growth, largely to encompass a logical link with public sector corruption, but also because of its presumed independence from religion and spirituality.

Religion and Spirituality are also tricky constructs to measure and, as with corruption and living standards, many different factors combined together would be needed to measure them comprehensively. Furthermore, it is unlikely that agreement could be forged between any two people on what components to measure and how to measure religion and spirituality. As with many areas of the social sciences, researchers select measures that they believe offer the best assessment of the construct, knowing that their snapshot is an incomplete picture. When researchers rely on secondary data, they are further limited by the measures chosen by others involved in the data collection phase. The WVS data has very strong and relevant measures for operationalizing the variables of religion (as religiosity and religious expression). Spirituality and spiritual expression are less understood constructs to begin with, and they were not a primary focus of the WVS data collection effort. As such there are fewer measures for spirituality and spiritual expression, and while they offer important information regarding parts of these constructs, it is recognized that they present an incomplete picture.

What is the overall assessment of how well the data appropriately measure the constructs of this study? Compelling challenges to construct validity can certainly be made, and many of the limitations of the measures have been recognized above. The measure selected for economic growth was chosen specifically to enlighten the link and relationship between corruption and economic growth. The measure obtained for living standards is widely accepted in the research community, especially when great, or individual, precision is not necessary. Regarding the constructs of corruption, religion (religiosity and religious expression), spirituality and spiritual expression, the measures employed in this study are the very best that are available for representative data from such a large number of countries. If researchers wait until perfect data and measures are available, the wait would be eternal because constructs of this kind can never be *perfectly* defined and measured. It is important for the research process, and gaining new understanding, for studies in the social sciences to move forward with imperfect measures; that process is one of the catalysts for discovering better and more comprehensive measures to be employed in subsequent studies. This provides rationale for conducting this study with imperfect but suitable measures, using the best data that are currently available for the purpose of learning more about each construct and the relationships between them. This process will present opportunities to make progress on the measures and realities of each of the main construct areas.

3.5.2 Measurement Reliability

Reliability of the measures cannot be calculated, but it can be estimated, and this is an important procedure in the assessment of the data. Reliability refers to the *quality* of the measurements, or how consistently the data would be measured if the process were repeated. True Score Theory is a theory about measurement that claims that every measurement is the sum of two parts: the true

level plus an error component (Reckase, 2004). The nature of different and unique human beings, living in a dynamic and sometimes chaotic environment, means that measurements provided, collected, or recorded by humans will almost always have an element of error. Measurement error can also be divided into two subcomponents: random error and systematic error. Trochim (2001, p. 91) writes that random error refers to the human variability in taking social measures, while “systematic error is caused by any factors that systematically affect measurement of the variable across the sample”. These different errors have different impact on reliability, but generally it is the goal to reduce as much error (of both types) in the measurement process.

One method of reducing measurement error is to pilot test the collection instrument and refine the instrument based on feedback from test subjects. Both Transparency International (TI) and the World Values Survey (WVS) organization, from which data for this study were obtained, pilot test their surveys and make multiple refinements before full implementation. A second method of reducing measurement error is to train the people who participate in the data collection process, such as those conducting interviews or recording observations. Again, TI and WVS provide training and testing to their agents in advance of full implementation. A third method is to double-check the data thoroughly. TI and WVS do not specifically address this method in their technical specifications of the data, but the reputability of these agencies suggests that double-checking is likely part of their standard practice. A fourth method is to use statistical procedures to account for measurement errors, and this is performed in the analysis and reporting of the results of this study. “Finally, one of the best things [...] to deal with measurement errors, especially systematic errors, is to use multiple measures of the same construct” (Trochim, 2001, p. 92). This strategy has been an important part of the research

design of this project from its inception. The analysis will include seven independent measures for corruption, four for religiosity, eight for religious expression, five for spirituality, and four for spiritual expression, and this list does not include additional composite measures. With recognition that all of the measurements of this study have an error component, the overall reliability of the measures is excellent, based on the strategies employed to reduce as much error as possible.

3.5.3 Levels of Measurement

The third topic in discerning measurement validity and reliability is the level – or type – of measure, which determines the relationship of values within each measurement group. There are typically four different types of measurements: nominal, ordinal, interval, and ratio. Following the pre-analysis data screening, all of the 53 variables remaining in the two datasets were *ratio* measures. This allows for unrestricted analyses between any two variables in the study without the risk of mixing measurement types, or inadvertently assuming errors of magnitude. Research designs that mix measurement levels are still valid, if they control for possible errors, but there is less probability of error when analyzing same-level measurements. Ratio measures also allow for the quantification of results by impact percentage (for example, religious expression in Country A is twice as much as in Country B), which provides more helpful and understandable presentation of results. The measures of this study, and research design, provide high levels of validity and reliability, notwithstanding the recognized limitations and challenges noted above.

3.6 LIMITATIONS OF THE METHODOLOGY

The first limitation to be considered is the starting point for all information and analysis in this study – the data. Reliance on secondary data means that this study is limited by the decisions of inclusion or omission of information by others, who were responsible to their organizations for deciding what to collect, and how to collect it. On the other hand, any single researcher would be hard-pressed to summon the resources necessary to collect nationally-representative data across 66 (in the case of WVS) to 180 (in the case of TI) countries. The tradeoff for having access to data of near-global reach, and that would cost millions of dollars to collect first-hand, is not being able to dictate the exact terms of the data. Limitations related to individual responses to surveys or interviews cannot even be assessed for this study, as the data collection took place outside the purview of this project.

A second limitation of the data is the challenge to construct validity and measurement reliability. In the case where constructs do not have a single all-inclusive measure, proxy variables are identified and used in the analyses, and/or multiple measures are considered for each construct. Reliability is compromised by random and systematic error that is inherent in nearly all measures involving human beings as subjects, recorders, or evaluators. While all steps have been taken to minimize measurement error, it must be recognized that the data is not completely error-free. However, for data that measures the constructs of this study, and with a multi-country reach that provides a larger sample and stronger statistical results, the data obtained for this study are deemed to be the best available today.

A second major theme is the limitation of the various statistical methods used in this study. Correlation analysis provides relationship information, yet conclusions about predictions cannot be made based on those results alone. However, the data obtained from correlation

analyses help inform decisions about proceeding with bivariate linear regression models. The output of these tests cannot alone be employed to prove causation (Mertler & Vannatta 2002), though it provides statistical evidence that may be supported by other considerations to argue for a causal link. These might include: a reasonable explanation for cause and effect, the connection happens in repeated trials and under varying conditions, potential confounding factors are ruled out, and alleged cause precedes the effect in time (Zeng, 2008). While the results of bivariate linear regression are limited, they help inform the process of building multiple regression models. These models determined the relative variability of multiple independent variables on a single dependent variable, but not all of the variability of these complex dependent variables can be determined by a handful of independent variables. It is simply impossible to include all possible predictor variables for determining such complex constructs as corruption and living standard, for example, and this limitation must be recognized.

The results of all tests and analyses leading up to path analysis together informed the construction of a hypothesized model to estimate causal relations among variables; precisely which variables to include, and how to sequence them with cause and effect. While this analysis is the culminating test, linking the various hypotheses together with predictions of causality, it too is limited by the necessity of including a limited number of causal variables. Mertler and Vannatta (2002) describe this limitation in terms of the vagueness of many social science theories, the potentially infinite number of possible causal determinants, and the expansive complexity of nearly all phenomena of interest in social science research. Relating these limitations to this study, it is acknowledged that there are many causes of such complex constructs as corruption and living standards, far too many to include in a statistical analysis of any kind. What is important for this process and methodology is to determine the impact of each

of the *selected* independent variables on the relevant dependent variables, regardless of what may be missing from the potential impact of other variables outside the scope of this study.

The final limitation considered for this research, data, and methodology is the reality that these constructs cannot be measured and analyzed in a controlled experimental study; rather, the data is collected by observing uncontrolled settings at a snapshot in time. This is a common limitation endemic to most social science research, particularly macro-level studies at the national or global levels. This reality does not render a study of this kind meaningless, but it does diminish the degree of confidence one might have in drawing causal inferences from the results, especially when compared to the degree of confidence drawn from the results of an experimental study. Research in the social sciences must, by its very nature, progress in more measured or incremental steps, increasing our knowledge with a steady expansion of research on any given topic (corruption, religion and spirituality in the case of this study). Experimental studies may offer the possibility of “silver bullet” solutions; these are extremely rare in social science research based on post-event, observational data, and they are not expected to emerge from this data and methodology.

4.0 CHAPTER FOUR: ANALYSIS AND RESEARCH FINDINGS

Chapter Four presents the collection of results emerging from the data, research designs and analyses outlined in the previous chapter. Sections 4.1 and 4.2 summarize the results of the analyses associating, respectively, religion (as religiosity) and corruption, and religious expression and corruption. Sections 4.3 and 4.4 present summarized results for the analyses associating spirituality and corruption, and spiritual expression and corruption, respectively. Sections 4.5 and 4.6 provide the results of analyses testing links between corruption and economic growth, and corruption and living standards, respectively. Each of these sections also presents findings from the analyses that provide evidence of the strength and validity of each of the main independent variables within each of the major research areas of this project.

Section 4.7 describes the process by which emerging multiple regression models are constructed from the initial analyses and presents the results of these multivariate models. Section 4.8 outlines the method for creating hypothesized models with which to estimate causal relations between the various primary variables in this study and then presents the results of the subsequent path analyses. The limitations of causal modeling are reviewed at the conclusion of this section, specifically as they relate to the research of this dissertation. Finally, the concluding section (4.9) of this chapter revisits each of the research questions and hypotheses, summarizing the findings related to each hypothesis, and then formally evaluating each null hypothesis. Broad

and culminating discussion of the results of all these analyses, along with policy implications and anomalies, is summarized in the concluding chapter.

4.1 RELIGION (AS RELIGIOSITY) AND CORRUPTION

One great challenge to defining and measuring such complex constructs as religion and spirituality is identifying a variable that best captures the essence of each construct. A successful decision-making process for meeting this challenge incorporates the knowledge gained from a careful consideration of the theory and the literature (covered in Chapters One and Two) for each construct, as well as from statistical screening and analyses (the topic of this chapter) to deal with effect size and multicollinearity. This process for the religiosity construct began with a correlation matrix to test associations between the following seven variables:

1. Percent claiming to be non-religious
2. Percent claiming to be religious
3. Percent claiming to believe in “god”²
4. Importance of “god” in your life
5. Importance of “god” in your life (scale adjusted)
6. Composite-1 variable of 2/3/5 above
7. Composite-2 variable of 2/3/4 above

² The term “god” is used in quotations, indicating reference to the god, or deity, of any religion. Not all religions refer to their deity as “God” (e.g. Allah, Yahweh, Buddha, etc.), and this clarification was explained in the administration of surveys and interviews by WVS.

It was expected that the two composite variables would correlate highly with each of the other variables forming part of the composite, but all seven variables were highly correlated (ranging from .690 to .962) with each other, confirming their consistency and strength in explaining component – but overlapping – parts of the construct of religiosity.

Simple regression analyses were then run on each of the seven religiosity variables as hypothesized predictors of corruption. Bivariate regression standardized residuals and normality graphs were created with histogram and normal P-P plots for each of the seven religiosity variables and assessed for meeting the assumptions of the model and analyses. A comparison of the R^2 statistic for each simple regression was undertaken to evaluate the level of variance explained by each of the predictor variables, and this was added to the data on theory, the literature, normality and residuals to determine the optimal variable to represent religiosity in multiple regression models; this is the *Importance of God in your Life* variable (ImpGodLife). These initial tests indicated a clear inverse relationship between religiosity and corruption. The measure and scale of the corruption variable may be intuitively confusing in that countries that score higher on the CPI scale exhibit lower levels of perceived corruption. The negative relationship in this case may be described more specifically as countries that score on a higher level of religiosity also have higher levels of corruption, and this result is somewhat perplexing from a religious teaching-morality perspective.

4.2 RELIGION (AS EXPRESSION) AND CORRUPTION

The statistical contribution to the process of identifying the optimal variable for the religious expression construct began with a correlation matrix to test associations between the following twelve variables:

1. Percent attending religious services at least once/week, on average
2. Percent claiming to pray to “god” at least once/week, on average
3. Percent claiming to get comfort and strength from religion
4. Importance of religion in your life
5. Importance of religion in your life (scale adjusted)
6. Percent claiming that religion is “very” & “rather” important in life
7. Leisure time spent with people from church, mosque, etc.
8. Leisure time spent with people from church, mosque, etc. (scale-adj.)
9. Percent claiming belonging to a religious organization
10. Percent claiming participation in unpaid work for religious org.
11. Composite-1 variable of 1/2/3/5/8 above
12. Composite-2 variable of 1/3/6 above

The variable BelRelOrg_2 (belonging to a religious organization) showed relatively low correlations (ranging from .391 to .527) with the other variables, except with UnpaidRel_2 (unpaid work for religious organizations), which also showed relatively low correlations with the others. Interestingly, these two variables correlated highly with each other (.837); this is a fascinating anomaly to be discussed in the next chapter. The remaining variables correlated highly with the other variables in this construct set (ranging from .667 to .993). The two composite variables correlated highly with each of the other variables, with the exception of the

anomalous BelRelOrg_2 and UnpaidRel_2, once again demonstrating the irregularity with those two variables in this set.

Simple regression analyses were then run on each of the 12 religious expression variables as hypothesized predictors of corruption. Once again the BelRelOrg_2 and UnpaidRel_2 variables showed very different results than the other variables in this construct set, with both variables having almost no predictive value on corruption. Both of these variables infer close personal association with an institutionalized religious organization, whereas the other measures in this set infer more of a personal expression, or more *informal* affiliation with institutionalized religion. Why does this factor stand out as different, both in terms of relationship with other forms of religious expression, as well as its predictive impact on corruption? This question is addressed in the discussion section of Chapter Five.

Bivariate regression standardized residuals and normality graphs were created with histogram and normal P-P plots for each of the 12 variables and assessed for meeting the assumptions of the model and analyses. A comparison of the R^2 statistic for each simple regression was undertaken to evaluate the level of variance explained by each of the predictor variables, and this was added to the data on theory, the literature, normality and residuals to determine the optimal variable to represent religious expression in later multiple regression models; this is the *Composite-2* variable (ComRE2). These initial tests indicated a clear inverse relationship between religious expression and corruption, meaning that countries that score on a higher level of religious expression also have higher levels of corruption. This result is also perplexing, especially given that religious instruction (morality) and group accountability might be assumed from the various forms of religious expression.

4.3 SPIRITUALITY AND CORRUPTION

The statistical contribution to the process of identifying the optimal variable for the spirituality construct began with a correlation matrix to test associations between the following five variables:

1. Take moments of meditation, contemplation, or something similar
2. Percent claiming they would give part of income for the environment
3. Percent agreeing to increase their taxes for environmental protection
4. Percent claiming government should protect the environment, but at no personal cost to me through taxes
5. Percent thinking about the meaning and purpose of life “often”

There was a wide range of correlations in this set of variables (ranging from .002 to .828), with most of the relationships relatively weak. It was expected that the two environmental variables that involved personal sacrifice would correlate highly, and this was borne out in the results (.828). The third environment variable (no personal sacrifice) was included to test part of the definition of spirituality, and this predictably correlated poorly with all other variables in this set, especially with the *meaning and purpose* variable (.002). There were no composite variables calculated for this construct.

Simple regression analyses were run on each of the five spirituality variables as hypothesized predictors of corruption. Bivariate regression standardized residuals and normality graphs were created with histogram and normal P-P plots for each of the five spirituality variables and assessed for meeting the assumptions of the model and analyses. A comparison of the R^2 statistic for each simple regression was undertaken to evaluate the level of variance explained by each of the predictor variables, and this was added to the data on theory, the

literature, normality and residuals to determine the optimal variable to represent spirituality in later multiple regression models; this is the *Meaning and Purpose* variable (MeanPurP_1). These initial tests indicated a mild inverse relationship between spirituality and corruption. This means that countries whose populations score on a higher level of spirituality also have higher levels of corruption, but the relationship is very weak.

4.4 SPIRITUALITY (AS EXPRESSION) AND CORRUPTION

The statistical contribution to the process of identifying the optimal variable for the spiritual expression construct began with a correlation matrix to test associations between the following five variables:

1. Important to teach children unselfishness in the home
2. Leisure time spent with people from culture and community organizations
3. Scale-adjusted version of #2 above
4. Percent belonging to social welfare service for elderly
5. Composite-1 variable of 1/3 above

It was expected that the composite variable would correlate highly with each of the other variables forming part of the composite, and that was confirmed in the matrix calculations (ranging from .748 to .871). The other variables in this construct set showed low to moderate correlations with the other non-composite variables (ranging from .271 to .518), indicating that each variable may be adding more unique components of the construct with less overlap, or multicollinearity. Consistent with the anomaly identified in the religious expression section, the

single *belonging to an organization* variable in this set correlated least with the other variables and had almost no predictive value on corruption. As hypothesized above, this may be explained by the difference between *formal* and *informal* belonging and commitment to organizations and institutions.

Simple regression analyses were run on each of the five spiritual expression variables as hypothesized predictors of corruption. Bivariate regression standardized residuals and normality graphs were created with histogram and normal P-P plots for each variable and assessed for meeting the assumptions of the model and analyses. A comparison of the R^2 statistic for each simple regression was undertaken to evaluate the level of variance explained by each of the predictor variables, and this was added to the data on theory, the literature, normality and residuals to determine the optimal variable to represent spiritual expression in later multiple regression models; this is the *Composite-1* variable (ComSE1_1). These initial tests indicated a moderate positive relationship between spiritual expression and corruption which, interestingly, is different from either of the two religion constructs. This relationship can be defined more plainly as countries whose populations score on a higher level of spiritual expression also have lower levels of corruption.

4.5 CORRUPTION AND ECONOMIC GROWTH

Very few countries on earth, in recent history, have experienced negative population growth and, in general, low income countries (LICs) have had some of the highest rates of population growth (Potts, 2007). This has meant that LICs have been under enormous pressure to raise and sustain high rates of economic growth just to keep pace with population growth, much less make

progress toward improving national living standards. As public sector corruption is considered in this mix, the relationships once again evoke the great debate over whether corruption leads to stunted economic growth and living standards, or whether low living standards lead to high levels of corruption, for many of the reasons discussed in Chapter Two. There is sufficient theory and research to acknowledge with high confidence that causation flows simultaneously in both directions between corruption and economic growth, and the side of this debate of most interest to this research is the causation from corruption to economic growth and subsequently to living standards.

There are many factors involved in both corruption and economic growth, but for the purpose of testing the relationship between the two variables, this analysis will use Transparency International's (TI) Corruption Perceptions Index (CPI) as a proxy for corruption and the number of days it takes to start a new business (from Doing Business) as one reliable measure of economic growth. This latter measure was chosen for several reasons. First, research has documented a strong link between the number of new businesses started (relative to the size of the economy) and the rate of economic growth, and also that more businesses are started in legal and bureaucratic environments that are more hospitable to this process (see Schramm, 2004). A bureaucratic approval process that takes longer is also less hospitable, and a palpable deduction can be made that countries that have a more lengthy process for granting new business starts, grant fewer approvals (in relation to the size of the economy), and this has a constraining impact on economic growth.

The second reason for using business starts data is the robustness of the measure in relation to public sector corruption. A process that takes longer through which to matriculate, and perhaps involves a greater number of steps, offices, and officials, provides greater incentive,

time and opportunity for bribes to be exchanged. Delayed processing is one of the most common strategies employed by public officials seeking to extract a bribe from an applicant (Cohen, 2004), and this slows the pace of new business applications. The final reason for the selection of this variable is that the number of days it takes to start a business should, theoretically and logically, have very little in common with religion and spirituality in a country, and therefore the relationship between corruption and business starts can be isolated within the context of the broader analysis.

One intuitive challenge to the validity of this measure is the charge that if corruption is high and rampant, that business applicants can simply pay the necessary bribe to speed their approval, and this would yield very low processing times for highly corrupt bureaucracies. The weakness of this challenge is that while bribe-paying for timely bureaucratic approval may indeed speed processing in the short-run, over the longer term it shifts more power and leverage to bureaucrats, who then use delay tactics to up the ante (Cohen, 2004). This long-term sequence results in lengthy processing and approval times in countries where corruption is perceived to be high, and this relationship was confirmed with the data and analysis of this study. The predictable relationship does not preclude, however, the possibility of individual and case occurrences where business approvals may be won quickly in highly corrupt settings if bribes are sufficiently large, or if leverage swings dramatically between parties due to other factors.

A simple regression analysis was conducted for the corruption variable as a hypothesized predictor of economic growth, as measured by the speed at which new business applications are approved. Bivariate regression standardized residuals and a normality graph were created with histogram and normal P-P plots and assessed for meeting the assumptions of the model and analysis. Regression results indicate that the model significantly predicts business start approval

times ($R^2=.305$, $R^2_{adj}=.294$, $F(1, 64)=28.045$, $p<.001$), and this model accounts for 30.5% of the variance in economic growth. The statistical analysis does not, on its own, prove causality but this model, together with the theory and logic discussed above, suggest a strong causal link. This test specifically indicates a moderate inverse relationship between the two variables, meaning that countries that exhibit higher levels of corruption also have longer time periods needed to process and approve new businesses, and this result confirms theory, research, logic, and common sense.

4.6 CORRUPTION AND LIVING STANDARDS

A simple regression analysis was conducted for the corruption variable as a hypothesized predictor of living standards, as measured by GDP per capita (PPP). Bivariate regression standardized residuals and a normality graph were created with histogram and normal P-P plots and assessed for meeting the assumptions of the model and analysis. Regression results indicate that the model significantly predicts GDP per capita ($R^2=.781$, $R^2_{adj}=.778$, $F(1, 64)=228.261$, $p<.001$), and this model accounts for 78.1% of the variance. The statistical analysis does not, on its own, prove causality but this model, together with the theory and logic discussed above, suggest a strong causal link. This test specifically indicates a strong positive relationship between the two variables, meaning that countries that exhibit higher levels of corruption also have lower living standards, and this result confirms theory, research, logic, and common sense.

The links between corruption and new business starts, and corruption and living standards is not the primary focus of this dissertation and is therefore reported here in truncated form. The general argument to be made from this analysis is that whatever reverse causality may

well exist, there is strong support for the argument that corruption does indeed negatively impact economic growth and, by extension, living standards. In other words, gaining improvements in public sector corruption can only have a positive impact on economic growth and living standards (at least in all but the highest income countries), and it is critical to keep learning about the causes of corruption and to gain better understanding about how it evolves, and may be addressed in helpful ways.

4.7 MULTIPLE REGRESSION MODELS

The first multivariate analysis considered the impact of religion and spirituality on public sector corruption. The bivariate statistical analyses reported above were necessary to select specific independent variables (IVs) for each of the major constructs; these are identified below along with the predetermined dependent variables (DVs):

- | | |
|---|---|
| 1. Religion (as religiosity) | - ImpGodLife (Importance of god in your life) |
| 2. Religion (as religious expression) | - SMEAN(ComRE2_1)-(composite variable) |
| 3. Spirituality (as state of being) | - SMEAN(MeanPurP_1)-(meaning and purpose) |
| 4. Spirituality (as spiritual expression) | - SMEAN(ComSE1_1)-(composite variable) |
| 5. Public Sector Corruption | - CPI_2 (Transformed index from TI) |
| 6. Economic Growth | - StartBusi_1 (Transformed index from DB) |
| 7. Living Standards | - GDP/CapPPP_1 (Trans. measure from WFB) |

An initial multiple regression (Model A) was designed to be exploratory in nature, testing tolerance statistics for multicollinearity; this included the four IVs for the four constructs listed above, and corruption (CPI_2) as the dependent variable (DV) using the *Enter* method. Without

controlling for any other variables, the model accounted for 41% of the variance of the DV and was statistically significant in predicting public sector corruption. The output of collinearity statistics, however, indicated that the two religion variables exceeded threshold *tolerance* and *variance inflation factor* (VIF) levels, meaning that as highly correlated variables, they contain much of the same information and are essentially measuring the same thing (Sprinthall, 2000). This condition was taken into account in the design of subsequent models.

A second multiple regression (Model B) was designed using the *Forward Selection* method in order to rank the IVs in terms of their contribution in predicting the variance of the DV. Forward selection multiple regression was conducted to determine the accuracy of the IVs (religiosity [ImpGodLife], religious expression [ComRE2_1], spirituality [MeanPurP_1], and spiritual expression [ComSE1_1]) predicting public sector corruption (CPI_2). This method excluded *religiosity* from the model, confirming that most of the contribution of *religiosity* is already applied through *religious expression*, and collinearity statistics indicated that the remaining three IVs were tolerated. Regression results indicate that the overall model significantly predicts public sector corruption ($R^2=.405$, $R^2_{adj}=.376$, $F(3, 61)=13.868$, $p<.001$). A summary of regression coefficients is presented in Table 4.1 and indicates that all three independent variables (religious expression, spirituality, and spiritual expression) significantly contributed to the model at a 0.05 level. The final model is statistically significant and accounts for 41% of the variance of the DV; the prediction equation is:

$$\text{Corruption} = .006X_{\text{Spiritual Expression}} - .005X_{\text{Religious Expression}} - .005X_{\text{Spirituality}} + .941$$

Table 4.1 Coefficients for Model Variables (DV=CPI_2)

	<i>B</i>	β	<i>t</i>	<i>p</i>	Bivariate <i>r</i>	Partial <i>r</i>
Religious Expression	-.005	-.438	-3.887	<.001	-.548	-.548
Spirituality	-.005	-.239	-2.119	.038	-.452	-.262
Spiritual Expression	.006	.244	2.466	.016	.238	.301

It is significant to note that both religious expression and spirituality exhibit an inverse relationship with public sector corruption, while spiritual expression reveals a direct relationship. While these various statistical models do not alone prove causality, they provide added strength, along with theory, research, common sense and logic (Tate, 1992), to predict causal impact, and they inform the design of hypothesized causal models described later in this chapter.

To gain further perspective on the predictive contribution of the three IVs in Model B, additional variables with theoretical implications for public sector corruption were introduced to the model one at a time. Surprisingly, the following variables add nothing to the variance of the DV and are excluded in forward selection multiple regression models:

Percent of population completing primary school education

Percent of population completing secondary school education

Percent of population completing bachelor's degree

Most people can be trusted

Confidence in the civil services

These additional analyses provided greater relative strength and confidence for the explanatory power of Model B, and each of the three statistically significant independent variables.

A third multiple regression (Model C) was conducted to test the *individual* contribution of independent variables corruption (CPI_2), religious expression (ComRE2_1), and spiritual expression (ComSE1_1) in predicting new business starts (StartBusi_1). Recall that in a bivariate regression model corruption significantly predicted the variance in new business starts, and this analysis was run to test the theory that the variance in the DV is not significantly predicted by the religion and spirituality constructs when included together with corruption in the model. This theory was confirmed by the results of the multiple regression analysis and, as can

be noted by the output summarized in Table 4.2, neither religious expression nor spiritual expression statistically contribute to the variance in new business starts.

Table 4.2 Coefficients for Model 3 Variables (DV=StartBusi_1)

	<i>B</i>	β	<i>t</i>	<i>p</i>	Bivariate <i>r</i>	Partial <i>r</i>
Corruption	-.903	-.584	-4.409	<.001	-.552	-.489
Religious Expression	-.001	-.041	-.319	.750*	.279	-.041
Spiritual Expression	.001	.039	.352	.726*	-.102	.045

* Indicates IVs that are *not* significant at the .05 level.

A fourth multiple regression (Model D) was run for similar reasons as for Model C, but with a different dependent variable (DV). Model D was designed to test the *individual* contribution of independent variables corruption (CPI_2), religious expression (ComRE2_1), and spiritual expression (ComSE1_1) in predicting living standards (GDPCapPPP_1). Recall that in a previous bivariate regression model corruption significantly predicted the variance in living standards, and this analysis was run to test the theory that the variance in the DV is not significantly predicted by the religion and spirituality constructs when included together with corruption in the model. This theory was confirmed by the results of the multiple regression analysis and, as can be noted by the output summarized in Table 4.3, neither religious expression nor spiritual expression statistically contributes to the variance in living standards.

Table 4.3 Coefficients for Model 3 Variables (DV=GDPCapPPP_1)

	<i>B</i>	β	<i>t</i>	<i>p</i>	Bivariate <i>r</i>	Partial <i>r</i>
Corruption	1.574	.859	11.571	<.001	.884	.827
Religious Expression	-.001	-.039	-.536	.594*	-.509	-.068
Spiritual Expression	.001	.015	.244	.808*	.221	.031

* Indicates IVs that are *not* significant at the .05 level.

These four models completed the multiple regression analyses required to test the predictive relationships of the various constructs of this study. Other multiple regression models were run,

as needed, to calculate beta path coefficients for causal modeling, which is the final phase of the analysis.

4.8 CAUSAL MODELING

Mertler and Vannatta (2002, p. 199) write that “regression [is] used to establish the *possibility* of cause-and-effect relationships among a set of variables” (italics added), and the results of that process inform the design of causal models. Causal modeling refers broadly to techniques used to test whether a pattern of intercorrelations among variables “fits” the researcher’s principal theory of which variables are causing variance in other variables (Aron & Aron, 1997). Path Analysis is one of the more common techniques of causal modeling and has the advantage of examining both direct and indirect causal effects.

An initial path analysis (Model 1) was developed from preliminary hypotheses, together with the results of the bivariate and multiple regression models. The theory behind Model 1 was that religion would be a strong determinant of religious expression, just as spirituality would be a strong determinant of spiritual expression. Spirituality was also thought to have some influence on religious expression, but religion would have very little impact on spiritual expression. The two constructs *religion* and *spirituality* determine a significant portion of the variance in public sector corruption through their respective expressed states, and corruption in turn is theorized to be a significant determinant of living standards. The sole correlation path in the model was statistically significant, as were four of the six coefficient paths. Reproduced correlations were calculated to check the model fit, as well as to reveal how many of the reproduced correlations were not consistent with the empirical correlations.

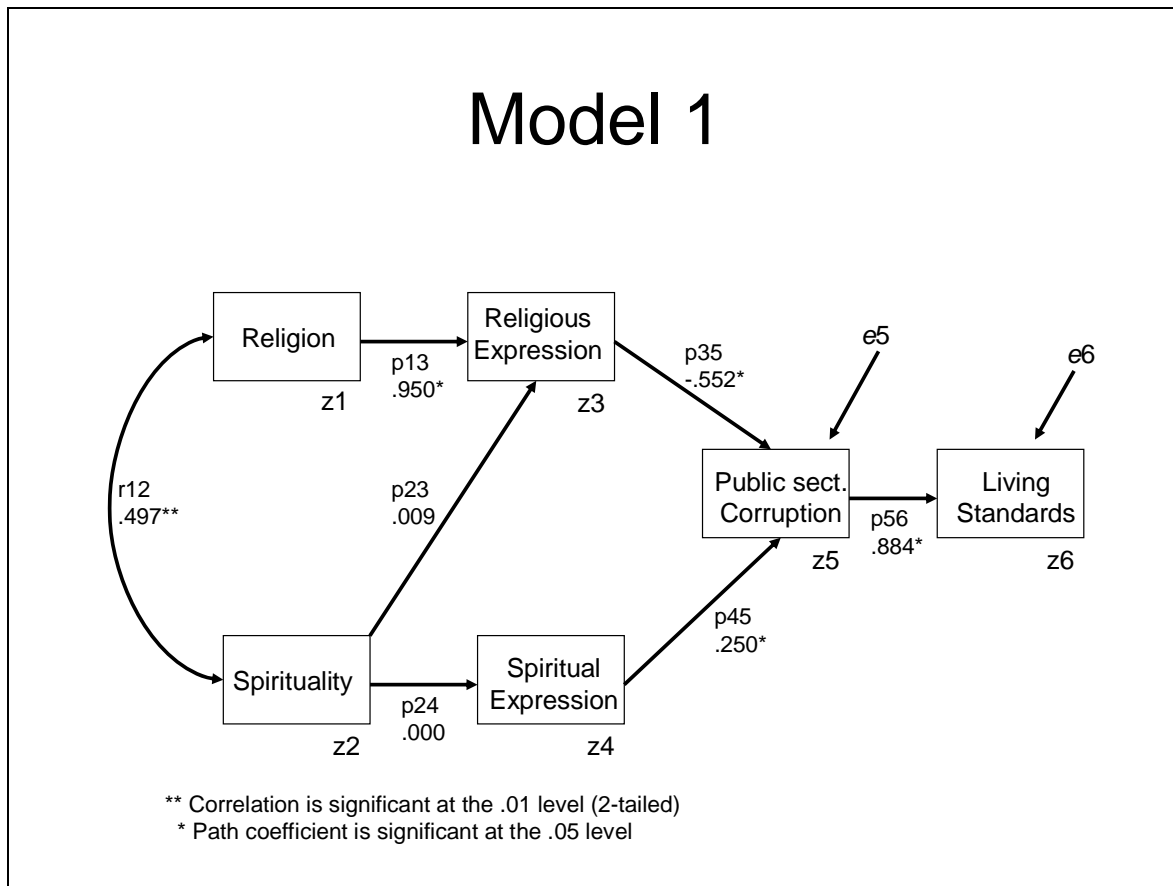


Figure 4.1 Causal Model 1

The results of the initial model (Model 1) indicated that it was not consistent with the empirical data. More specifically, two of the reproduced correlations exceeded the threshold difference of .05, and regression analyses revealed multicollinearity problems between religiosity and religious expression. The latter issue required the exclusion of one of the offending variables (religiosity was removed from subsequent models), and the first issue necessitated an analysis of the model and data, and then a revision of the model. The revised model (Model 2) was developed, which removed religiosity and shifted spirituality to a new location where its direct effect on corruption could be analyzed:

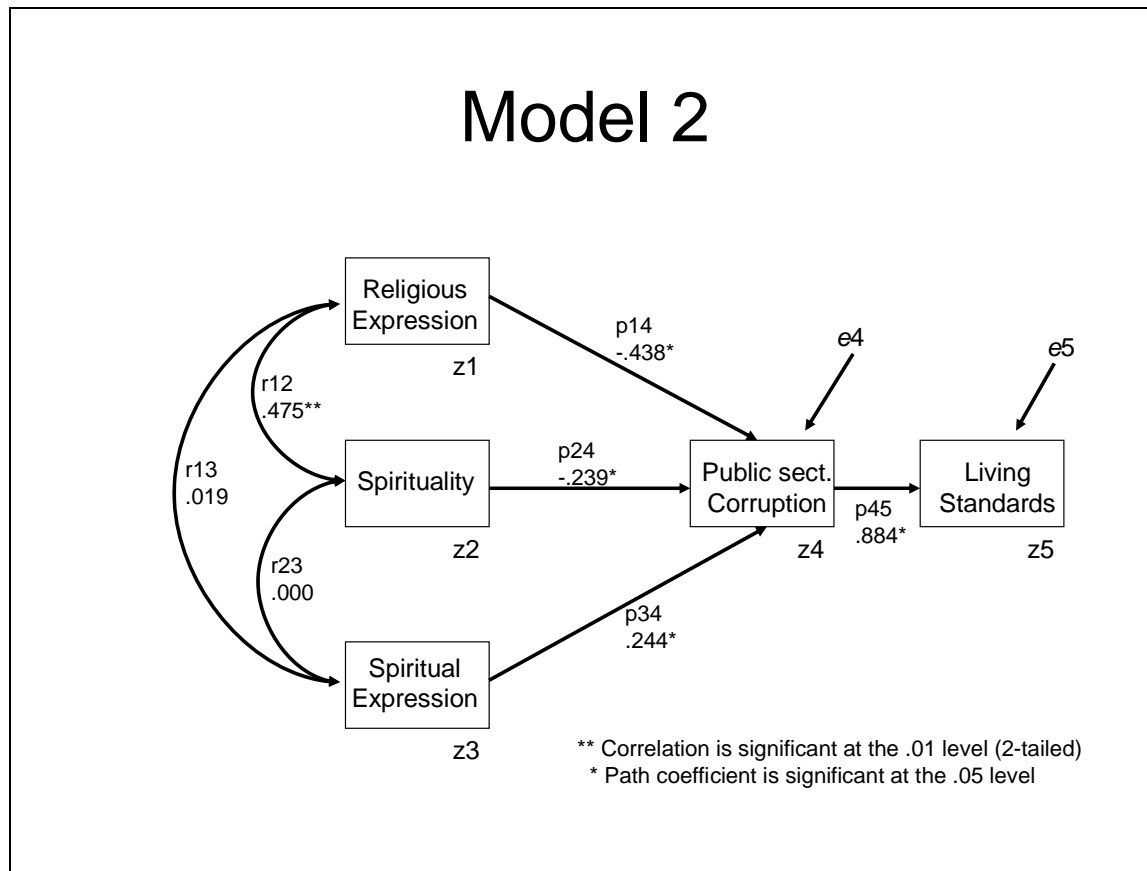


Figure 4.2 Causal Model 2

In Model 2 all of the path coefficients were statistically significant, but only one of the three correlation coefficients were significant. Furthermore, a correlation value near zero for spirituality and spiritual expression created problems in the calculation of reproduced correlations with any path routing through that link. As a result, one of the reproduced correlations exceeded the threshold difference of .05 with the relevant empirical correlations, and this indicated a less-than-ideal model fit. It also confirmed suspicion that had formed through all the analyses to date that the variable operationalizing spirituality may have some reliability limitations. A third model was developed to add economic growth to the analysis and to discover the direct and indirect (through economic growth) causal impact of public sector corruption on living standards:

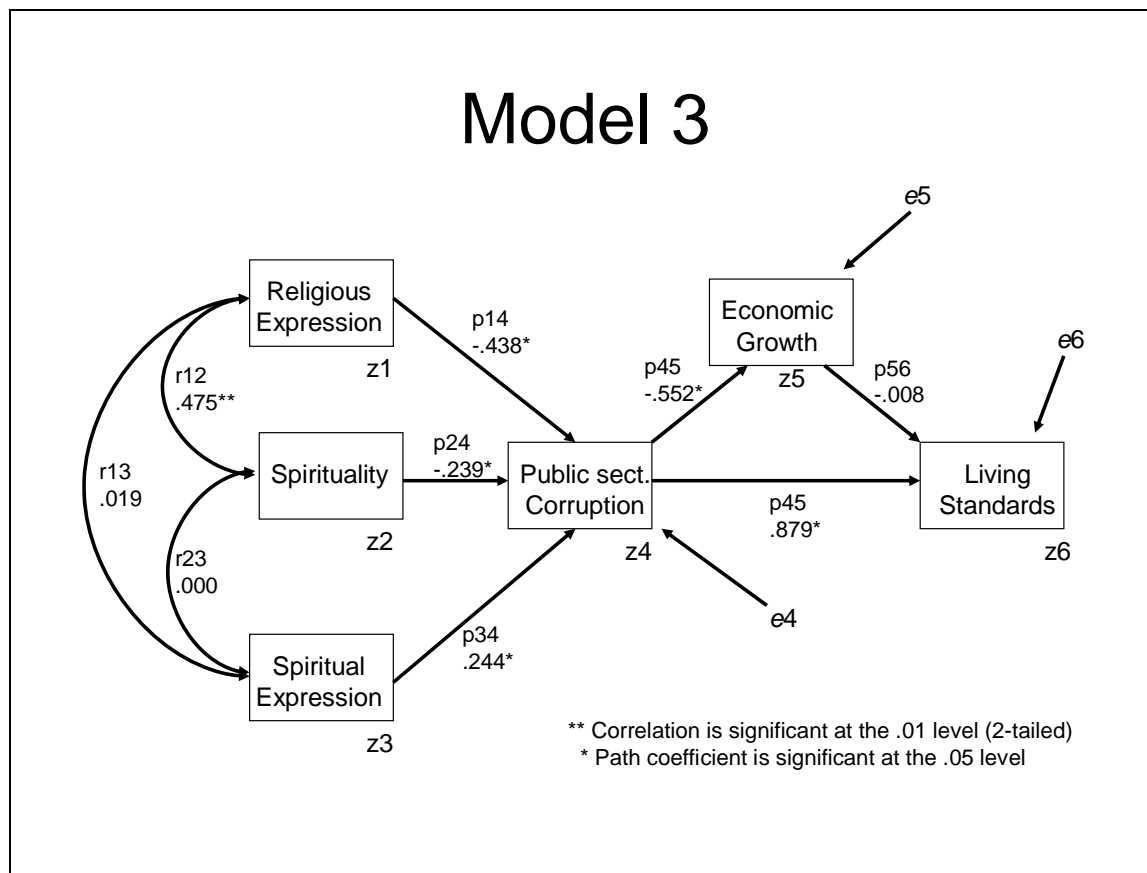


Figure 4.3 Causal Model 3

All of the path coefficients in Model 3 are statistically significant, except for the path between economic growth and living standards; this reflects the missing component of population growth rate, which always has a mathematical relationship with these two variables. The levels and significance of the correlation coefficients continue to show problem areas, specifically between the constructs of spirituality and spiritual expression. These several issues were reflected in the poor fit of the model, with three of the reproduced correlations exceeding the threshold difference of .05 in reference to the empirical correlations. The results of the first three models, together with knowledge of the underlying theories and research, and common sense and logic, combined to inform the creation of the fourth and final model.

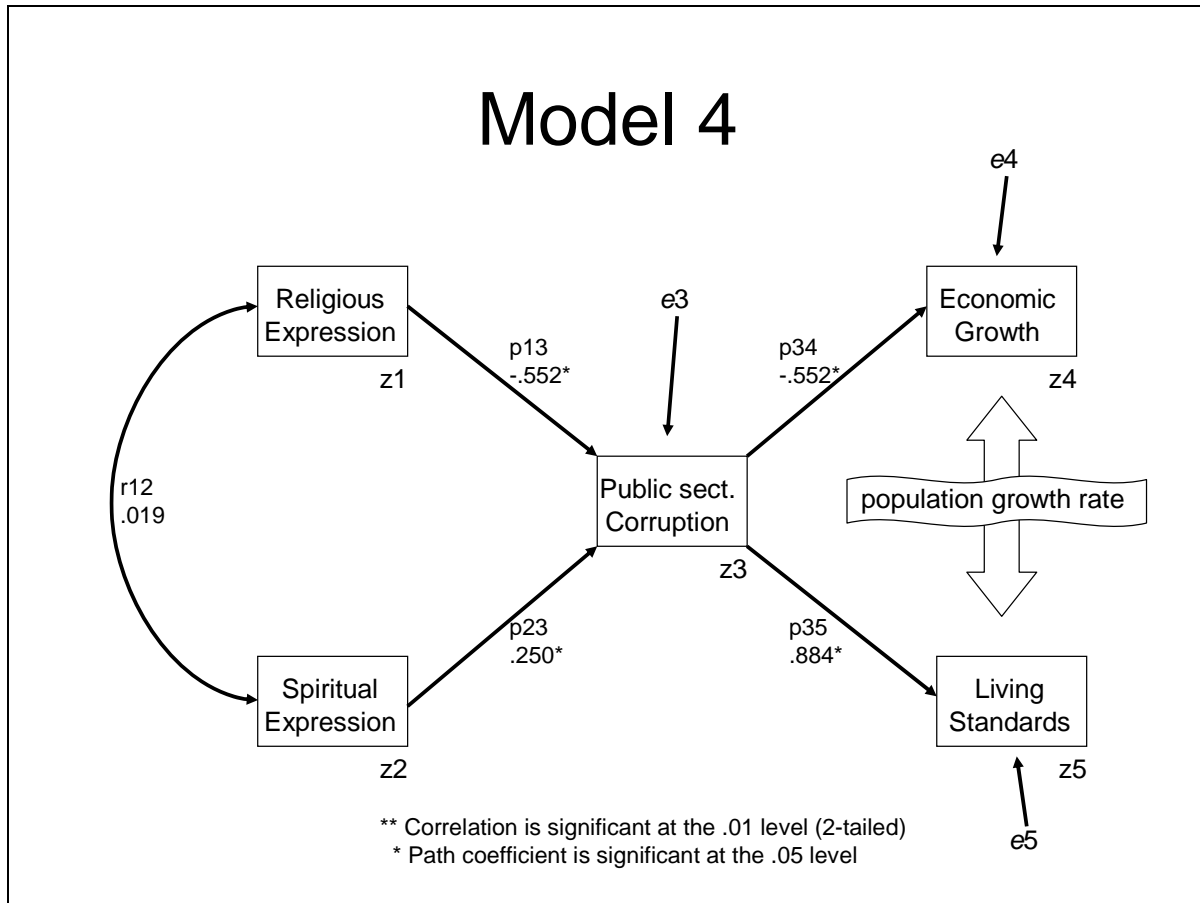


Figure 4.4 Causal Model 4

Population issues are beyond the scope of this investigation, though *population growth rate* is inserted informally into the model, between economic growth and living standards, to depict its relevant importance to a direct relationship between the variables. Computation of reproduced correlations for this final model indicated consistency with the empirical correlations as none of the reproduced correlations exceeded the threshold difference of .05 (see Table 4.4).

Table 4.4 Empirical and reproduced correlations for the final model (Model 4)

	Rel. expr.	Spir. expr.	Corruption	Econ. growth	Liv. Standards
	Observed Correlations				
Religious expression	1.000				
Spiritual expression	.019	1.000			
Public sect. corruption	-.547	.240	1.000		
Economic growth	.279	-.102	-.552	1.000	
Living standards	-.509	.221	.884	-.494	1.000
	Reproduced Correlations				
Religious expression	1.000				
Spiritual expression	.019	1.000			
Public sect. corruption	-.547	.239	1.000		
Economic growth	.302	-.132	-.552	1.000	
Living standards	-.484	.212	.884	-.488	1.000

All path coefficients in Model 4 are statistically significant, and the lone correlation coefficient, while not significant, demonstrates adherence to assumptions of multicollinearity. This final model not only represents a good fit with the empirical data, but it also demonstrates significant causal effects for the major constructs of this study. The direct, indirect, and total causal effects of the final model are summarized in Table 4.5 below.

Table 4.5 Summary of Causal Effects for Final Revised Model (Model 4)

Outcome	Determinant	Causal Effects		
		Direct	Indirect	Total
Corruption ($R^2 = .362$)	Religious expression	-0.552*		-0.552 ⁺
	Spiritual expression	0.250*		0.250 ⁺
Business starts ($R^2 = .307$)	Corruption	-0.552*		-0.552
	Religious expression		0.305	0.305 ⁺
	Spiritual expression		-0.138	-0.138 ⁺
	Living standards		-0.488	-0.488
Living standards ($R^2 = .782$)	Corruption	0.884*		0.884
	Religious expression		-0.488	-0.488 ⁺
	Spiritual expression		0.221	0.221 ⁺
	Business starts		-0.488	-0.488

* Direct effect is significant at the .05 level.

⁺ Total effect may be incomplete due to unanalyzed components.

Path analysis is used by researchers to test the “legitimacy of a causal model that has been based upon logic, theory, and/or experience” (Mertler & Vannatta, 2002). Discovering a model that demonstrates a good fit with the data typically takes several attempts, with revisions and re-testing following an evaluation of the data analysis for each model. The causal modeling and analysis for this research project exemplified that process and sequence, with a good fit emerging on the third revision (Model 4). If this model accurately reflects reality, then the estimated causal effects are both statistically significant and, for social science research of such complex constructs, the independent variables have relatively large determination effect on the variance of the dependent variables. Interpretation of these results is discussed in greater detail in section 4.9, but first it is important to note some of the limitations of causal modeling.

4.8.1 Limitations of Causal Modeling

Causal modeling cannot practically include all possible determinants of a complex dependent variable, and it can be safely assumed that some very important determinants are missing from this analysis. The focus of this study is to examine the causal impact of religion and spirituality on public sector corruption and the causal models therefore limit the scope of the model and analysis to these broad construct parameters. Secondly path analysis, as a causal modeling technique, attempts to estimate and describe causal relationships through the use of correlational data. As such, causal inferences drawn from the results of the analysis are reported with a lower degree of confidence than inferences drawn from an experimental research design. This limitation is inherent in most social science research, especially for national level (or larger) projects, but it is important to recognize this limitation, both for analysis technique, and for the

interpretation of the results of this particular project. These limitations will be considered in the discussion phase of this study.

4.9 REVISITING RESEARCH QUESTIONS & HYPOTHESES

This research project is an investigation of the impact of religion and spirituality on public sector corruption primarily, with the impact of public sector corruption on economic growth and living standards as a subsequent consideration. This section will consider the results of the analysis in each of these areas independently, and then the comprehensive picture will be reviewed and discussed in the following chapter.

4.9.1 Religion and Corruption

The first major research question arising from this investigation is what impact does religion, as measured by both religiosity and religious expression, have on public sector corruption. Two hypotheses were identified to test this question:

Religion and Corruption (with Religion measured by Religiosity):

- H3_O: for countries with different measures of religiosity, there will be no significant difference in measured levels of corruption.
- H3_A: for countries with different measures of religiosity, there will be significant difference in measured levels of corruption.

Religion and Corruption (with Religion measured by Religious Expression):

- H4_O: for countries with different measures of religious expression, there will be no significant difference in measured levels of corruption.
- H4_A: for countries with different measures of religious expression, there will be significant difference in measured levels of corruption.

Bivariate and multivariate regression analyses and causal modeling confirm that religion is a statistically significant predictive determinant of public sector corruption, and this allows for a firm rejection of both of the null hypotheses related to religion. In independent simple regression models, religiosity accounts for 29.5% of the variance in corruption, and religious expression accounts for 30.0%. These levels are higher than were initially expected, but the limitations of bivariate analysis techniques require cautious interpretation of these results. Indeed, when both of these constructs are included in multivariate regression models, it becomes clear that they essentially contain the same, or at least much of the same, information; they are measuring the same thing. When both constructs are analyzed as independent variables (IVs) for the dependent variable (DV) corruption, together they account for 30.5% of the variance in corruption, just 0.5% more than religious expression accounts for on its own. While this multicollinearity problem requires the elimination of one of these variables from further multivariate analyses, it confirms data reliability with high confidence in that respondents who claimed to have various levels of religiosity also exhibited similar levels of religious expression; the expression of their faith and religiosity very closely matched their stated convictions.

Even though multicollinearity with religiosity and religious expression permits statistical analysis of only one of these variables at a time in multivariate models, either variable is a significant predictor of corruption on its own, and both are robust predictors even when controlling for other potential contributing factors. The effect size of both religiosity and religious expression on corruption is quite strong, given the complexity and multifaceted nature of public sector corruption. Religiosity explains 30% of the variance in corruption in simple regression analysis and still a relatively strong 14% after controlling for the other independent variables of spirituality and spiritual expression in a multiple regression model. Religious

expression also explains 30% of the variance in corruption in simple regression analysis, but a more robust 15% above and beyond what is explained by the two other independent variables (spirituality and spiritual expression) in a multiple regression model. Guidelines provided by Cohen (1988, 1992) and others (see Pyrczak, 2006) suggest that these effect sizes fall into the medium to moderately-large range.

The biggest and most perplexing question arising from this analysis is: why is the relationship between religion and corruption *inverse*? Why do countries with higher levels of religion have lower CPI scores, meaning higher levels of corruption? All the major religions of the world teach their adherents to become people of greater honesty, integrity, purity, and trustworthiness (Templeton, 2002). One might assume that more religious populations would carry these religious convictions into the transactions between citizens and the public sector, which should be a resisting influence on possible acts of corruption. Wouldn't it seem more logical, then, that countries with higher levels of religion would have lower levels of perceived public sector corruption? This analysis not only reveals the opposite relationship, but it is statistically significant and with moderate effect size!

These results provide much stronger evidence, than was documented by Westfall (2006), that religion is an important cultural (and non-economic) explanation for public sector corruption. The results also confirm the conclusions of a study by Beets (2007), who found that people who live in countries with higher levels of perceived corruption also consider religion to be more important. These seemingly illogical results have caused some researchers to suggest a strong reverse causality between these two constructs. Is it possible that victims of corruption seeking solace from religion (Beets, 2007) exerts stronger influence on the relationship of these two variables than religion offering resistance to corruption through its teachings on ethical life

practice? Or are there simply too many other factors and variables that influence and/or obscure the interaction between religion and corruption? These questions remain unanswered with this study, but they provide various threads to consider in future research.

4.9.2 Spirituality and Corruption

The second major research question arising from this investigation is what impact does spirituality, as measured by both spirituality (state of) and spiritual expression, have on public sector corruption. Two hypotheses were identified to test this question:

Spirituality and Corruption:

H1_O: for countries with different measures of spirituality, there will be no significant difference in measured levels of corruption.

H1_A: for countries with different measures of spirituality, there will be significant difference in measured levels of corruption.

Spirituality and Corruption (with Spirituality measured by Spiritual Expression):

H2_O: for countries with different measures of spiritual expression, there will be no significant difference in measured levels of corruption.

H2_A: for countries with different measures of spiritual expression, there will be significant difference in measured levels of corruption.

Bivariate and multivariate regression analyses and causal modeling confirm that spirituality and spiritual expression are statistically significant predictive determinants of public sector corruption, though with smaller effect sizes than the religion constructs. Still, this finding provides evidence for a firm rejection of both of the null hypotheses related to spirituality. In independent simple regression models, spirituality accounts for 18% of the variance in corruption, and spiritual expression accounts for 6%. When both constructs are analyzed as IVs for the DV corruption, together they account for 25% of the variance in corruption, which is a larger variance than the sum of the individual predictive outcomes. This reflects the surprising

result that while the analyses indicated an inverse relationship between spirituality and corruption, the relationship between spiritual expression and corruption was the opposite; direct and positive. This outcome raises questions of construct and/or data validity, which will be discussed after reviewing the effect size of each variable.

Even though spirituality and spiritual expression are statistically significant predictors of public sector corruption in both the bivariate and multivariate analyses in this study, the size of their effects on the dependent variable fall into the low range, according to Cohen's (1988, 1992) gradation. Simple regression analysis resulted in spirituality explaining just 19% of the variance in corruption, and when combined with religious expression and spiritual expression in a multiple regression model, it accounts for just a little more than 4% of the variance after controlling for the other variables. The effect size of spiritual expression on corruption is even less robust than spirituality, explaining only 6% of the variance in corruption in simple regression analysis and 6% as the unique proportion of the variance in the DV above and beyond what is explained by spirituality and religious expression in a multiple regression model.

The surprise outcome of the analyses relating to spirituality and spiritual expression was the opposing direction of these variables in their relationships with the CPI. The data confirmed an inverse relationship between spirituality and corruption, meaning that countries with populations scoring higher on the spirituality measure have lower CPI scores; they struggle with higher levels of public sector corruption. Conversely, the relationship between spiritual expression and the CPI proved positive; countries with populations that demonstrate higher levels of spiritual expression have higher CPI scores, meaning less corruption. The expectation at the outset of this project was that spirituality and spiritual expression would correlate directly with corruption. Theory and logic suggest that as individuals mature in spiritual intelligence,

several transformations occur that together form a resistance to potential acts of corruption. Maturing spirituality involves a process of denying self, and self-interest, and suppression of ego in favor of deference to others and the broader environment. Secondly, the transformation involves an increased awareness of one's place and responsibility in the world and universe, as it relates to others, present and future, and to the natural environment. Public sector corruption is sometimes referred to as personal gain at the expense of the general public, which fully contradicts the values and perspective of spiritual intelligence at its most developed level.

Several observations can be made from these discoveries, especially when considered in light of the results for religion in this study. The first notable finding is that the two religion constructs provide very different results than the two spirituality constructs. One of the postulates outlined at the outset of this study was that the differentiation between religion and spirituality is not well defined, not only in the minds of the general public, but also in the research and academic literature. The results of this study confirm the suggestion with evidence and statistical analysis that they are two different constructs, though with acknowledgement that they are closely related phenomena, and that there may indeed be overlapping areas. This is substantiated by the data used for this analysis from the World Values Survey (WVS) organization, which did not intentionally attempt to collect data on *spirituality* per se. A number of questions and responses from the WVS contributed to a pooled source of data that was used in this study to operationalize the two spirituality constructs; while some of this data was drawn from sociological and cultural segments of the survey, other portions were selected from the religious component.

The fact that data was not collected in the specifically targeted areas of spirituality and spiritual expression may help explain the surprising contradictory results of these two constructs.

The variable that was selected to be the proxy for spirituality was: “How often, if at all, do you think about the meaning and purpose of life?” (WVS URL, 2008). This question was asked, by survey and interview, within the content area of other religious questions, which may have biased respondents toward considering this question within the context of their religious understandings. This raises curiosity about whether responses to this question might have been significantly different if asked completely separate from religious considerations, or if asked intentionally within a broader context of questions about spirituality. While this identifies some level of doubt as to the validity of this variable as a reliable proxy for spirituality, the results still demonstrate a clear distinction between spirituality and religion.

The differences from religion to spiritual expression are even more stark. Furthermore, all of the variables that were selected to operationalize spiritual expression, and that together formed the composite proxy variable, were located outside of the component area of religion in the WVS surveys and interview format. Respondents answering questions that were later used to measure spiritual expression were unlikely to be thinking of these questions, or their responses, within a broader context of religion. This is not suggesting that a person’s religious convictions or expression do not inform and influence other areas of their life and thinking; in fact most people of deep religious faith allow that perspective to permeate all other aspects of life. Rather, the point to be made is that responses should not have been biased toward religion in the same way as has been identified for the proxy variable for spirituality, and this makes the data and results for spiritual expression more reliable.

The finding that spiritual expression influences public sector corruption in a helpful way, while religion appears to impact corruption in an unhelpful way, is an important conclusion for this study. The fact that both of these constructs are statistically significant in predicting

variance in public sector corruption adds further weight to these results. And while there is sufficient theory and logic to allow for the possibility of reverse causality with the religion constructs, that would not appear to be the case with spiritual expression. The outcomes of this research have interesting implications, from political, to policy, to theological; these will be discussed following an analysis of the final phase of this study.

4.9.3 Corruption, Economic Growth, and Living Standards

The third major research question arising from this investigation is what impact does public sector corruption have on economic growth and living standards. One null and one alternative hypothesis were identified to test this question:

Corruption and Growth (as measured by Living Standards):

H5_O: for countries with different measures of corruption, there will be no significant difference in measured levels of living standards.

H5_A: for countries with different measures of corruption, there will be significant difference in measured levels of living standards.

Bivariate and multivariate regression analyses, along with causal modeling confirm that corruption is a statistically significant predictive determinant of both economic growth and living standards as measured in this study, and these findings provide sufficient evidence for a firm rejection of the null hypothesis listed above. In independent simple regression models, corruption accounted for 31% of the variance in new business starts, and an astoundingly strong 78% of the variance in living standards. Effect sizes for public sector corruption as a predictive determinant of business starts and living standards are robust, falling into the moderate-to-large

range for business starts, and the “very large” (Pyrczak, 2006, p. 162) range for living standards. One surprising result of this analysis is that while business starts is a statistically significant predictive determinant of living standards in a simple bivariate regression model, it does not account for as much of the variance in living standards (24%) as might be expected.

The findings in this area of the study confirm the alternative hypothesis, but they also provoke several interesting questions. Why does corruption appear to impact living standards much more than business starts, and why is the relationship between business starts and living standards weaker than expected, and weaker than the relationship between corruption and living standards? At first glance, the most obvious response to these questions is that population growth rate is not part of this analysis, and that variable has a mathematical relationship with economic growth and living standards (when defined as GDP per capita). For example, a country may rank high in economic growth, but if population growth rates are even higher, then living standards will fall. While these possibilities exist, a large cross-sectional analysis like this one should reflect broad patterns, like research that has consistently shown that population growth rates fall as incomes rise (see Moaz, 2008; Baerlocher, 2007; Weiss, 2007). As this area of the research was not the primary focus of this project, population figures and issues were deemed beyond the scope of this study. However, the interesting findings from the analyses here suggest that future research might include population growth rates to help explain these relationships.

Another explanation for some of the unexpected findings noted above involves the use of business start data as one contributing factor of economic growth. Many different factors combine to impact economic growth, not all of them related to public sector corruption. The number of days it takes to start a business was selected in this study specifically because results

on this measure rely significantly on the performance of the public sector bureaucracy; in addition, it was felt to be nearly completely unrelated to the primary independent variables of religion and spirituality and this was subsequently proven in the analysis. This uncovers a potential limitation with the corruption data. The CPI is a measure of perceived corruption on a country-wide basis, and it could be that the specific bureaucracies responsible for approving business starts in any given country could be more or less corrupt than the national corruption average, and this could skew the data and statistical analysis; future studies using agency-level corruption data would control for possibility.

Finally, another possible explanation for the finding of such a strong relationship between corruption and living standards, relative to the other findings, may be the issue of reverse, or dual, causality. The debate continues as to which variable causes the other (more), and while many researchers have acknowledged that there is likely some level of causality in both directions, most also believe that it is stronger in one direction than the other (Paldam & Gundlach 2008). The assumption of this project, related to causality, is that while causality may in fact exert influence in both directions, there is a logical argument to suggest that improvements in public sector corruption will only have a positive impact on economic growth and, by extension, living standards when controlling for population growth. Indeed, it is this perspective on causality – from corruption, to economic growth, to living standards – that drives the primary focus of this research project, and that is discovering what impact the moral influences of religion and spirituality may have on public sector corruption.

5.0 CHAPTER FIVE: SUMMARY AND CONCLUSIONS

This chapter summarizes the overall research findings of the study, discusses conclusions, implications and limitations of the analysis, and identifies anomalous cases and questions, as well as future research interests that emerge from the overall project. Specifically, section 5.1 draws together the results of each of the separate research questions and hypotheses and draws conclusions about the overall findings of the study, together with potential policy implications. Section 5.2 considers and contrasts what the findings of this study reveal, versus what they do not reveal. Section 5.3 identifies interesting and anomalous cases and questions that arise from the findings, as well as gaps that remain for further/future research in these areas. Finally, Section 5.4 offers a broad and summary conclusion.

5.1 OVERALL FINDINGS & POLICY IMPLICATIONS

The results of this study indicate that religious expression has a negative impact, and spiritual expression has a positive impact, on public sector corruption, which in turn has a negative impact on both economic growth and living standards. This section summarizes the dissertation with a broader view of the entire research project and the interactions across all sections of the study, drawing higher-level conclusions and considering policy implications. One of the foundational assumptions built into this research project and design was that improving living standards is one

of the most important goals of all societies, especially for low income countries (LICs) where large segments of the population remain on the edge of survival, and lacking one or more basic human rights. Working backward from this assumption, national living standards data is a function of national income and national population, as measured by GDP per capita, and while this measure is blunt and imprecise for every segment of the population, it is one of the more reliable measures available today for all countries.

In view of the known influences on living standards, this study follows the national income branch, leaving national population considerations outside of its purview. National income is a function of national economic output and growth, which in turn is influenced by many different economic determinants. Two branches selected for analysis as determinants of national economic output and growth were public sector corruption and business starts data, the latter for its direct relationship with the performance of the public sector approval process and also because of its perceived independence from religion and spirituality dimensions. The number of days it takes to secure a new business license is impacted by several factors, but the branch of most interest in this research design is public sector corruption, which is a known impediment to economic growth more generally. Public sector corruption is a labyrinth of complexity, impacted by many different determinants, yet this study hones in on two socio-cultural constructs that have not been given much research coverage in terms of their influence on corruption. Religion is one of these two branches followed back from corruption, and it was further broken down into the component constructs of religiosity and religious expression. Likewise, the spirituality branch was considered together with the component constructs of spirituality and spiritual expression.

The overall research design is depicted in Figure 5.1 below, with solid lines and circled constructs indicating points of analysis in this project, and broken lines and boxed constructs acknowledging the presence of other determinants outside the scope of this study. The somewhat confusing inverse scale for corruption employed in the analysis is replaced now with more intuitive high-low corruption measures. The relationships between variables are indicated as direct (+) or inverse (-), and the primary findings break down as follows: First, religion has a direct – and moderate – causal impact on public sector corruption. Second, spirituality has an inverse – but weak – causal impact on public sector corruption. Finally, public sector corruption has an inverse – and strong – causal impact on business starts and living standards. Each of these primary findings has social, political, and economic policy implications.

Overall Research Design

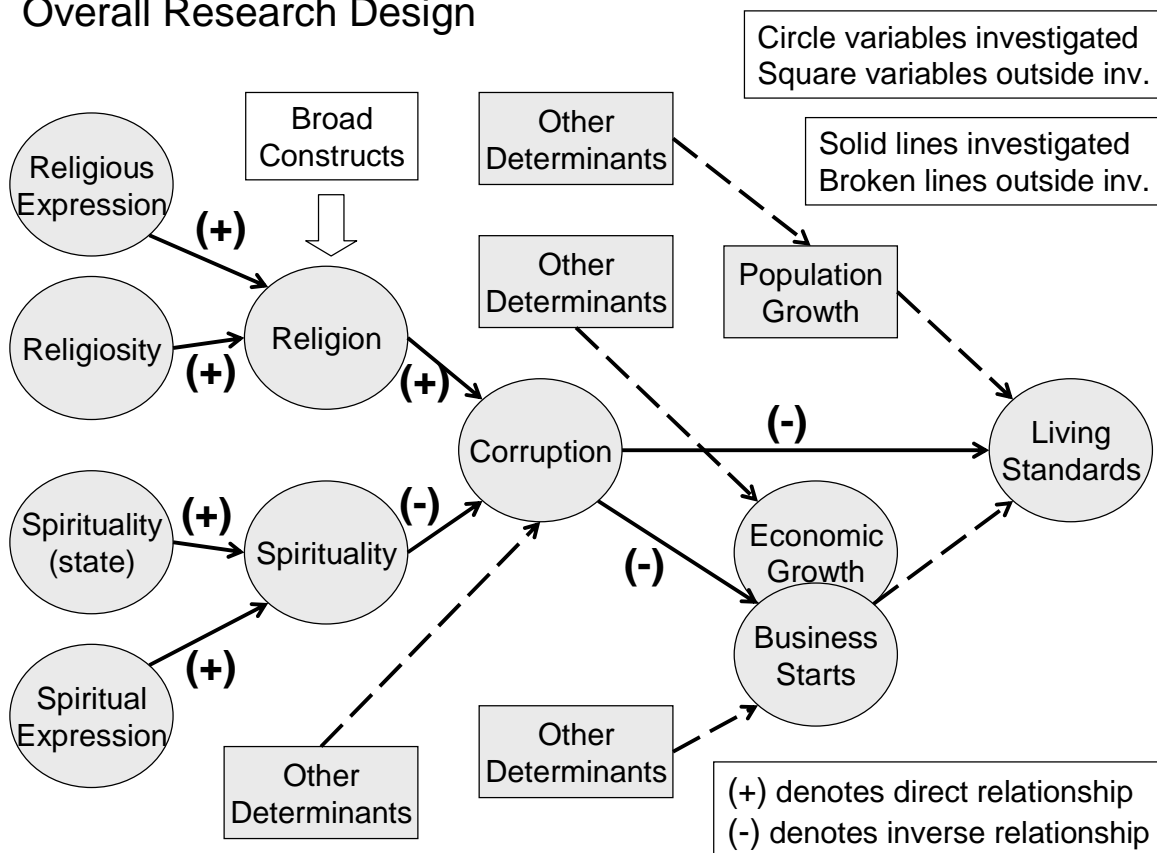


Figure 5.1 Overall Research Design

Many research projects have identified the “population-poverty cycle” (Todaro and Smith, 2009, p. 299) as one of the most challenging development obstacles to overcome; the individual socioeconomic incentives are too strong for population growth control policies to have significant impact on low income populations (Cassen, 1996). This provides argument that pursuing policies to bolster economic growth has the most likely probability of improving living standards in the short-run, and then subsequently lowering population growth rates over the medium to long-run as a secondary response to rising incomes. Many factors obstruct economic growth in LICs, and one of the major impediments is public sector corruption (Klitgaard, 2000). While some researchers (Paldam & Gundlach, 2008) point to a strong corruption-poverty cycle as well, there are also examples of documented improvement in public sector corruption in LICs (Klitgaard, 2000). The overall findings of this study confirm corruption as a statistically significant causal determinant impeding both economic growth and living standards, albeit with sufficient caution as to the limitations of the methodology and analyses as mentioned above.

The next link in this chain is corruption. There are many theories, some documented, about the causes of various levels of corruption, ranging from colonial history to federalism and democracy (Treisman, 2000), just to name a few. However, all of the studies on corruption to date have not been able to adequately and comprehensively explain public sector corruption, especially in LICs where it is known to be severe, and an impediment to development. Amazingly, there have been relatively few studies searching for a link between corruption and the individual and personal resistance to it that can come from religious or spiritual conviction. Of the few studies linking religion to corruption, almost all of them analyze religion as a classification of group membership; this is the first study to address religion in the form of religiosity and religious expression, and spirituality in any form.

The findings in this area of the study are as perplexing as they are significant. Religious expression emerges as the most significant predictor, but it seems to impact corruption in a counter-intuitive direction. Religious expression might be considered the most authentic measure of religion because it measures actions based on convictions rather than self-reported convictions alone. It would be expected, then, that countries with populations measuring higher on religious expression would also have lower levels of corruption based on the logical assumption that individual commitments to honesty and integrity would provide resistance to corruption on both sides of bureaucratic transactions. This study refutes that assumption, and with a level of statistical significance, effect size, and control to eliminate chance as the reason.

There are several possible explanations for the dichotomous relationship between religion and corruption found here. The first explanation is weak, but possible, given the limits of the data in this study. The World Values Survey (WVS) organization collected data in sufficient numbers within each country to be statistically representative of each national population. It could be the case, however, that the samples taken from each country could have underrepresented citizens employed in the public service ranks, as well as citizens who have more frequent interaction with the public bureaucracy. For example, citizens living and working in rural areas of LICs are less likely than their urban countrymen, to either work in the civil service, or even to seek services from the government as a client. Therefore, if the data collection overrepresented rural populations, it could bias the data and subsequent analyses and findings. To control for this possibility, and to strengthen the confidence in inferences drawn from findings related to this link, future data collection efforts could focus specifically on collecting religious data from front-line bureaucrats and their clients.

Another explanation for the surprising results on the directional link between religion and corruption is the possible influence of bureaucracy itself. The main reason that bureaucratic management was born in Europe, at the behest of Max Weber, was to change the loyalties that pervaded organization-employee-client relations at that time and place. The bureaucratic structure, which has since become the hallmark of governmental management, was designed to break the strong loyalties to family and friends, in favor of loyalty to the organization (Daft, 2008). Is it possible, then, that bureaucracy could also break loyalties to religious convictions, in favor of an organizational culture of corruption? Even so, why then would the more religious populations be more corrupt than less religious populations? Is there something about the religious convictions of honesty and integrity such that when they are broken that the pendulum swings in the opposite direction? If this were occurring, wouldn't individuals suffer an internal conflict and quickly scale back actions of religious expression? Why wouldn't it affect non-religious populations in the same way, or even those convicted on spiritual grounds? This possible explanation has some level of plausibility, but it also seems weak, especially in light of the concurrent findings in this study on the link between spirituality and corruption, which indicates an inverse (and opposite) relationship. If bureaucracy has the power to diminish loyalties to religious convictions, why wouldn't it also have the power to diminish loyalties to spiritual convictions?

Another explanation for the finding of a direct relationship between religion and corruption is offered by Beets (2007), who suggests that people victimized by corruption turn to religion for solace, comfort and understanding; in effect, a reverse causality. This theory implies that levels of religiosity and religious expression would then be significantly different between those who work in the public sector, those likely to be beneficiaries of corruption, and those

victimized by the corruption it exacts. To test this theory, religious data would need to be collected specifically for the two populations and analyzed by grouping, and that would be an enormous undertaking with more than just a few countries sampled. In addition, for every act of corruption there would be one or more beneficiaries on one side of the transaction, and one or more victims on the other side, and logic would suggest that there would be an offsetting effect in its impact on religion, in nationally-representative data, as Beets (2007) hypothesized.

The most plausible explanation for these findings considers the sequence and progression of secularization and modernization. Inglehart and Welzel (2005) use WVS data for an extensive study of the progression of human and societal modernization. One area of their findings suggests that as societies modernize, that individuals reduce their dependence on the divine for help and sustenance in difficult times, and toward a confidence that society and humankind have the potential to solve problems on their own, and master nature. This secularization of society would progress more or less in parallel with rising incomes and reduced corruption. This theory builds on the work of sociologist Will Herberg (1955), who traced the cultural assimilation of immigrants into the melting pot of American life. In his essay, *Protestant Catholic Jew*, he traces a common progression from an ethnic consciousness of belonging, to a more emotional religious affiliation, to a more intellectual spiritualism. More specific to public sector bureaucracy, Howard Handelman (2003, p. 52) points out that “as Western societies modernized (i.e., became more literate, urban, institutionally organized, and industrial), their political systems invariably became more secular”. This coincided with rising living standards and a general decline in religiosity and religious expression. Handelman’s theory suggests that education is one key to this transformation, and yet primary, secondary, and

bachelor's level education had no predictive power on public sector corruption in this study when combined in multiple regression models with religion and spirituality.

Combining several of these theories and possible explanations, it might be further theorized that populations score higher on measures of religion when, and because, living standards are very low, which also coincides with times and places when and where perceived corruption is relatively high. This would make living standards the driving force on the progression of both religion *and* corruption, and it would also imply that the forces of poverty and instability (Herberg, 1955) that drive people to religion are stronger than the forces of religion that would in theory resist acts of corruption. This concept of competing forces, and the relative strength of each against the other, is an interesting area of focused inquiry, and an area identified for further research.

Including the spirituality construct in this study was important for several different reasons. In addition to the findings on the predictive power of spirituality on corruption, which turned out to be inverse and statistically significant, albeit with low effect size, it also provides a relative benchmark for comparison with findings on religion. This weakens the plausibility that bureaucracy has a mitigating influence on religious convictions, since the analyses demonstrate an opposite force on corruption from the spiritual expression construct. Furthermore, with measures of religious expression and spiritual expression being drawn from the same data source, and analyzed in relation to a common dependent variable (public sector corruption), these results provides evidence of differentiation between the broad constructs of religion and spirituality, and this was an important aim of this study.

Critics of religion often point out hypocrisies observed in what they know as the teachings and creeds of religion, versus how they see it being acted out by adherents. Because

this dissertation compares and contrasts both religion and spirituality on an outcome measure that assesses “performance in action”, these findings provide evidence of a disconnect between the tenets and claims of religion, and the daily, routine actions of many followers. This should raise concern for all adherents of religion because while the major religions of the world espouse a faith that transcends a state of existence to the transforming power of personal practice, the evidence suggests that a significant percentage of followers may claim the former, but reject the latter.

The overall findings have some interesting implications, not only for public policy, but also for theology, and religious institutions and leadership. From a public policy perspective, these findings provide clear evidence, and confirm the results of other similar studies in the past, that public sector corruption has a significant negative influence on economic growth and, by extension, living standards. The unique finding from this study is the role of the variable – how long it takes to secure a new business license – as one important indicator of corruption’s impact on economic growth, and as an intermediate variable between corruption and living standards; these relationships were both inverse and significant. While many bureaucratic departments have the potential to impede economic growth, governments would be well advised, backed by the power of these results, to ensure that the bureaucratic process of approving new business starts is given focused attention to ensure a process that is streamlined, expeditious, and relatively free of corruption. Other studies have documented different links between public sector corruption and living standards, and the findings of this study are significant because they expand our knowledge of, and also confirm, a direct inverse relationship between these two variables. The policy implications from this area of the study suggest the implementation of

anti-corruption measures across the entire public sector, but also specifically within agencies charged with processing new business starts.

Specific anti-corruptions strategies or measures are beyond the scope of this study, with the exception of implications drawn from the focused analyses on religion and spirituality. The findings on religion and corruption in this study present challenges to public policy. Most countries now have laws restricting employment discrimination on the basis of religious convictions or affiliation. It is also difficult to imagine that screening *out* religious candidates would make for a less corrupt public service, although that is what these findings would suggest. If, however, one ascribes to the theory described above that living standards drives the outcome of *both* corruption *and* religion, then it may actually be that religious convictions do in fact resist acts of corruption at any given gradation of living standard; a different kind of study would need to be designed to test these *relative* relationships.

The implications of the findings on religion and public sector corruption may have more importance for religious leaders and institutions than for governments or policymakers. Where religiosity and religious expression are at their highest levels, so are measures of perceived public sector corruption. Religious leaders should be concerned about these findings for three specific and different reasons. First, the evidence suggests that religion is not playing a positive role in public life, at least as it relates to corruption. One interpretation of these results is that many people who claim religion may be conforming to outward rituals, or the *letter* of the law, while at the same time resisting the potential life-transforming influence from adherence with the *spirit* of the law. This form of religion “on the surface” reflects poorly on religion generally, and it provides the evidence of hypocrisy that so many critics rail against. Second, religious leaders should be concerned about followers who must be internally conflicted by the concurrent

exposure to religious teachings and confrontation, and involvement, with corruption. Finally, religious leaders should recognize the failings of their influence to date in practically inhibiting public sector corruption, but also the tremendous potential that exists in what they can offer individuals and their nation. In essence, these results indicate a very poor grade to date on the level and quality of the transforming influence of religion in driving positive social, political, and economic change. Regardless of possible reverse causality from living standards to corruption, proponents and leaders of religion should find useful evidence here for helpful self-assessment.

The policy implications regarding spirituality are more straightforward. First, it is not politically incorrect, immoral, or illegal to screen for potential public sector employees on the basis of spirituality, spiritual expression or spiritual intelligence, at least as those terms have been defined in this dissertation. Second, several psychometric tests have been developed, tested, and calibrated to effectively measure spirituality (see Beazley, 1998; Zohar & Marshall, 2004), and this removes most inaccuracy and subjectivity from the process. Spiritual intelligence could be built into many human resource areas, such as the recruitment, applicant screening, interview, and hiring procedures for all government agencies. Third, spirituality can be specifically targeted for personal improvement and education, and to implement a program of staff development in this area would be an appropriate human resource objective in the public sector, so long as these efforts did not cross into areas of religion, for reasons noted above.

5.2 WHAT DO THE FINDINGS (NOT) REVEAL?

As the type of research conducted for this study cannot be done using controlled, experimental designs, inferences drawn from the results cannot be as strong or confident as would otherwise

be the case. Given the limitations of such broad-scale social science research designs, however, powerful and significant findings emerged from this study, resulting in several noteworthy conclusions. This brief section is included to make it clear what these findings reveal and what they do not reveal. Beginning with the latter, the results do not reveal with 100% certainty that religion and spirituality are causal determinants of public sector corruption, or that public sector corruption is a causal determinant of economic growth and living standards. The findings do reveal, with high certainty, a significant differentiation between religion and spirituality, given that the two constructs exhibit very different, and opposite, impact on the common variable of public sector corruption.

Social science research relies on a progression of steps that, when taken together, form an emergent design, the results of which can be valued with high probability of precision, accuracy, reliability, and validity. For this study, that process began with an overview of the research in these various areas, from which logic and findings were drawn to inform new research questions and hypotheses. These new research questions and hypotheses drove an in-depth review of the literature and research to gain a comprehensive understanding of each broad construct area, as well as proven, possible, and practical interrelations between them. This knowledge and understanding guided the selection of research techniques, designs, and models through a progression of steps and formal analyses. Finally, the results of the data analyses were interpreted and cross-checked against the other pieces that together build the case for testing the various hypotheses. What these findings reveal, then, are the results of statistical analyses on new data, evaluated with research designs that emerged from a combination of logic and inferences from previous related research. The overall findings reveal, with high confidence and probability, that religion and spirituality are indeed causal determinants of public sector

corruption, though in different ways, and that public sector corruption is a causal determinant of economic growth and living standards.

These findings reveal that religion, as measured by religious expression, is a robust predictor of public sector corruption with a direct relationship. They also reveal that spirituality, as measured by spiritual expression, is a weak, but still statistically significant predictor of public sector corruption, and the relationship is inverse, adding to the evidence of a statistical differentiation between religion and spirituality. While causal statistical analyses were used in this study, “the results of causal modeling are valid and unbiased only if the assumed model adequately represents the real causal process” (Mertler & Vannatta, 2002). The building of logic and reason in this overall project, based on the literature and previous research, and the progression of several models and adjustments, provide confidence that the final model does indeed represent reality; a real causal sequence.

5.3 GAPS AND FUTURE RESEARCH

Throughout this project, from the data collection and organization to the analysis, interpretation and writing, several anomalies were identified, and questions left unanswered. This dissertation also revealed some gaps that already existed in our understanding, and in the research, and some new gaps surfaced as a result of this project to consider for future research in the various areas of this study. This final section of the dissertation categorizes and classifies these various anomalies, surprises, research gaps, and new and old questions that remain unanswered at the conclusion of this project.

As the raw data were being collected from the various sources and organized in the datasets, the data on the country of Vietnam emerged as an outlier on nearly every measure and variable. Transparency International ranks Vietnam near the bottom of its range on the Corruption Perceptions Index (CPI), with a CPI score of 2.6, and of the 66 countries included in the primary dataset of this study, Vietnam ranked in the bottom ten percent. In other words, the CPI indicates a strong perception, among Vietnamese, that there are very high levels of public sector corruption. In addition, living standards as measured by GDP per capita (PPP) in Vietnam rank in the lower tenth percent of the countries evaluated in this study. However, Vietnam ranked highest on the list for percentage of the population indicating confidence in the police force, satisfaction with the people in national office, and confidence in the government. Furthermore, Vietnam ranked second from the top on the list for percentage of the population indicating confidence in the civil services. It seems incredible that the people of Vietnam would indicate the highest levels of praise and confidence in the public sector, while also acknowledging rampant and widespread corruption in the public sector. One possible clue to this mystery might be the apparent acceptance of corruption. Ninety-four percent of Vietnamese respondents indicated that it is justifiable for someone to accept a bribe, and this ranked the country in the top eighth percent.

Vietnam also cuts across the grain with regard to measures of religion. Recall that religion was found to have a direct relationship with public sector corruption in the overall study; however, while Vietnam is among the most corrupt nations included in the dataset, it ranks in the bottom ten percent on all measures of religiosity and religious expression, and at the very bottom on several individual variables. The Vietnamese people are certainly not turning to religion for solace or stability in the face of very low living standards and being victimized by a corrupt

government. And it appears that there is something other than religion that provides such faith and confidence in government structures, people and processes, even when they are acknowledged to be rife with corruption. The Vietnamese people also have very little confidence in religious institutions to solve social problems in their country, ranking third from the bottom on this measure in the 66 country dataset.

Another country that stands out for its surprising confidence in its perceived corrupt public sector is Bangladesh, which has the lowest CPI score among the countries of this study, and one of the lowest measures of living standards. While Bangladesh has for many years been ranked consistently as one of the most corrupt countries in the world, an astoundingly high 96 percent of Bangladeshi respondents indicated confidence in the country's civil service; this is 25 percentage points higher than any other country in this study, with the exception of Vietnam which was at 79.3 percent. Bangladesh also ranked high on measures of confidence in government (87.3%) and satisfaction with people in national office (76.1%). Why would the people of Bangladesh express such confidence in their government and the public bureaucracy when they also rate public sector corruption so high?

Unlike Vietnam, Bangladesh conforms to the overall results on religion, ranking near the top on almost all measures of religiosity and religious expression. However, on spirituality the country ranks in the top 20 percent on two composite measures of spirituality, which cuts across the grain of the overall findings in this study. Compared with the full range of country populations observed in this analysis, the Bangladeshi people rank among the highest in religion, near the top in spirituality, and at the very worst on public sector corruption, yet they are the most complementary of their civil service.

On the other end of this spectrum, Japan provides an interesting case. While it is among the leaders in this group of 66 countries in both living standards and low perceived corruption, the population of Japan has by far the least level of satisfaction with the people in national office. Japan also ranks very low on confidence in government and confidence in the civil service. For direct comparison, while Japan enjoys high living standards and low public sector corruption, its population is the least satisfied of any country with the people in national office. Conversely, while Bangladesh suffers with one of the lowest living standards, and the worst public sector corruption, its population has the most confidence of any country in its civil service. These three nations stand out as anomalies among the larger group of countries and provide mysteries, and additional questions, that will require further research to understand or resolve. One starting hypothesis to investigate might be the relative appraisal of government in relation to recent trends in quality of life. For example, perhaps the people of Vietnam and Bangladesh lavish praise on their governments because of recent improvements in their lives and in government services, even if they still rank poorly when compared to the rest of the world. And maybe the poor evaluation of government by the Japanese people reflects recent setbacks in their economy or quality of life.

The United States stands out from the larger group of countries on several measures of religion. While U.S. citizens enjoy one of the highest living standards in the world, and a relatively low level of perceived public sector corruption, an uncommonly high percent (80%) of respondents indicated getting comfort and strength from religion. A relatively high proportion (48.6%) of Americans also claim that it would be better for their country if more people with strong religious beliefs held public office. While these figures shown on their own may not seem anomalous, they appear as outliers in an otherwise stable pattern among the other countries

evaluated in this research. Confirming the documented secularization of society as living standards improve (Zelinsky, 2007), the data and analyses in this study show a consistent pattern of diminished religious importance as measures of GDP per capita increase, except for the United States. Zelinsky (2007) also notes this irregularity as a religious revival that has swept the U.S., and to a lesser degree Great Britain and Canada. Regardless, the U.S. example outside of the mainstream patterns of religion and development across time poses an interesting question and case for further inquiry and research.

One of the constructs identified in this study to measure spirituality is personal commitment to environmental preservation. The commitment level was captured by evaluating responses and trends across three similar questions:

1. The government should preserve the environment, but it should not cost me any money
2. I support increased taxes to force environmental preservation
3. I would give part of my income for environmental preservation

The first statement represents a desire to preserve the environment, but at the lowest level of personal commitment and sacrifice, placing the full cost of abatement practices on other parties. The second statement represents a stronger personal commitment to preservation, agreeing to provide part of the cost of abatement efforts, but making sure every other citizen also pays their fair share. The third statement represents the highest level of personal commitment to environmental preservation, with individuals willing to make personal monetary sacrifice regardless of commitments by other citizens. When combining the trend lines of these three responses by country, across the CPI measure, some interesting, if not predictable, results emerge. Respondents in some high CPI countries (the Netherlands, Iceland, Denmark, Sweden, Japan, and the United States) demonstrate a clear pattern across these three statements, with

higher percentages identifying with the highest levels of personal commitment to addressing environmental problems. By contrast, respondents in many of the low CPI countries (Bangladesh, Lithuania, Slovakia, South Africa, and Uganda) exhibit a clear but opposite pattern to the one noted above.

While the overall trends across all countries in this dataset support this broad finding, there are also some notable exceptions that raise questions about possible geographic determinants. Note that the high CPI countries listed above, with the exception of Japan and the United States, are all from the northern Europe-Scandinavia region. Indeed, the European countries further south (Germany, France, Italy, Spain, and Portugal), which also have relatively high living standards and low levels of corruption, show patterns along these three questions of less personal commitment. On the other side of this coin, the lower living standards and higher corruption level countries of Peru, China, Tanzania, and Vietnam exemplify the more altruistic pattern. This range of results could explain some of the variation by socio-cultural norms within certain geographic regions, perhaps picking up notions of collectivism more endemic in some regions or societies. Another possible explanation for the broad trends may be the presence and level of spirituality, which informs individual commitments to the broader environment. Still another factor may be income, since the range of commitments requires financial sacrifice, and there is strong correlation between living standards and public sector corruption. For all these reasons, this interesting area identified in this project provides another thread to pursue with future research.

Additional surprising findings of this dissertation, identified in the previous chapter, were the results of two specific measures of religious expression: percentage belonging to religious organizations, and percent involved in unpaid work for religious organizations. These two

variables correlated highly with each other, yet each correlated very poorly with ten other variables measuring religious expression. Furthermore, while the other measures of religious expression offered significant predictive value on public sector corruption, these two “belonging” measures did not. One possible explanation is that these two variables imply a close and structured personal belonging to a formal institution of religion. Does this represent a higher level and commitment of religious expression, and as these two variables have no predictive value on corruption, does this represent the *best* measure of the impact of religion on public sector corruption, which would then be nil? Is there something different about the impact of religion within individuals based on whether they have a casual affiliation with religion or a structured “membership” in a formal institution? Unfortunately, the latest wave of World Values Survey (WVS) data does not include sufficient numbers of cases across these two measures to permit statistical analysis with high confidence in the results. However, the differences noted here provide an interesting inconsistency with the rest of the religious expression data to consider for further research, assuming the number of cases measuring these variables increases in the next wave of WVS data.

Other areas have been identified in this paper, where new questions were raised, or old questions were left unanswered, and these bear mentioning here in the context of the overall study and findings. While this study is extremely valuable for its breadth, and global reach, much could be gained from one or more studies that probe these issues with less breadth, but greater depth. In addition to publishing CPI indices at the national level, Transparency International also collects and categorizes corruption data by agency within countries. Therefore if original data were collected from public officials and clients using their services, and operationalized on the two constructs of religion and spirituality, analyzing these measures with

agency-level corruption data would provide stronger interactive results among variables, albeit with more limited inference to other countries and regions.

This broad, global study discovered the illogical result of a direct relationship between religion and public sector corruption. If this finding exists in reality at the agency and desk level with individual countries, then it must mean that there is incredible internal conflict within individuals in the system confronting, and engaging in, public sector corruption. All major religions teach of negative consequences, either in this life or the next, for the sins that would clearly be committed on either side of the corrupt transaction. If this internal conflict is indeed present in large segments of populations in countries where measures of religion and corruption are high, this should be fairly easily uncovered and measured with careful and strategic data collection methods.

Living standards also emerge from this study as a possible interfering variable in the religion-corruption relationship. The fact that living standards tend to be lower in countries that also tend to have higher corruption and higher measures of religion raises questions about causality between all three of these variables. If living standards are a driving force of both religion and corruption, then it could also be surmised that the forces of poverty that drive people to religion are stronger than the forces of religion that could possibly resist corruption. Research to explore the role of living standards in these equations would further enlighten these murky waters, as would studies to consider the competing forces of religious conviction and temptation in the face of oppressive poverty, or environmental instability.

In any event, more research should be focused on the internal, individual control mechanisms that have the potential to resist corruption from any side of the transaction, whether it is from religious convictions, or spiritual commitments. Spirituality has emerged only recently

as a construct in its own right, with ramifications for individual motivation and behavior. There is currently very little data available on spirituality, and the measures for this study were extracted from various other component areas of the WVS database. Future research would gain valuable insights if measures of spirituality and spiritual expression were collected specifically based on an emerging definition and understanding of the construct. The data currently available from WVS offered a good start in this direction, but there was not a specific focus on this construct by WVS, and many of the measures had a limited number of cases, which reduces the confidence in drawing inferences from the results.

Another angle to pursue with future research would be to include the impact of population growth rates on the many issues raised in this study. Others have found strong links between population growth rates and poverty, and population growth has a mathematical relationship between economic growth and living standards, when measured by GDP per capita. If one starts from the assumption that public sector corruption is a causal deterrent of economic growth, then population growth rate rests squarely between corruption and living standards. In addition, anthropologists argue that population growth rates also have a connection with socio-cultural norms (Brandy, 2005), of which religion and religious values are a part, and this widens the potential impact of population on several areas of this study. Population issues were deemed outside the scope of this project, but further research of these connections would add greater understanding and perhaps added strength to the findings.

Finally, this study employs cross-sectional data analyses, models and techniques, the results of which are more limited than from time-series analysis. Currently there is insufficient data, in terms of number of cases/countries, over a significant time period, to allow for reliable time-series analyses on the issues of this study. However, with each new wave of data

collection, the organizations of WVS, TI, and Doing Business add additional time-referenced data, as well as new and refined measures and constructs. Within a few years, or waves of collection, time-series studies should be possible with sufficient data, and numbers of cases, for strong and reliable time-series analyses, results, and inferences.

5.4 CONCLUSION

Aside from uncovering a number of very interesting research gaps, the primary strengths of this dissertation are the results it provides; statistically significant evidence that religion and spirituality are causal determinants of public sector corruption, and that public sector corruption is a causal determinant of economic growth and living standards. This research further differentiates the constructs of religion and spirituality, and it is significant that one has a positive impact on corruption while the other has a negative impact. These results have implications for governments of all nations, and at all levels, specifically that spirituality has a positive impact on reducing corruption, and that spirituality can be nurtured and strengthened with intentional and directed effort. These results also have important implications for development. The research of this dissertation corroborates other similar studies that public sector corruption is a significant impediment to economic growth and development. Many low income countries (LICs) suffer high levels of public sector corruption, and the results of this study add force to the development agenda of strengthening public institutions at all levels.

APPENDIX A

COUNTRIES REPRESENTED IN THE PRIMARY DATASET

The following list shows the countries included in the Primary Dataset, listed in alphabetical order:

Albania	Algeria
Argentina	Austria
Bangladesh	Belarus
Belgium	Bosnia & Herzegovina
Bulgaria	Canada
Chile	China
Croatia	Czech Rep
Denmark	Egypt
Estonia	Finland
France	Germany
Great Britain	Greece
Hungary	Iceland
India	Indonesia
Iran	Iraq
Ireland	Israel
Italy	Japan
Jordan	Kyrgyzstan
Latvia	Lithuania
Luxembourg	Macedonia
Mexico	Morocco
Netherlands	Nigeria
Pakistan	Peru
Philippines	Poland
Portugal	Romania
Russia	South Korea
Saudi Arabia	Serbia and Montenegro

Singapore
Slovenia
Spain
Tanzania
Uganda
United States
Vietnam

Slovakia
South Africa
Sweden
Turkey
Ukraine
Venezuela
Zimbabwe

APPENDIX B

COUNTRIES REPRESENTED IN THE SECONDARY DATASET

The following list shows the countries included in the Secondary Dataset, listed in alphabetical order:

Afghanistan	Albania
Algeria	Angola
Argentina	Armenia
Australia	Austria
Azerbaijan	Bahrain
Bangladesh	Barbados
Belarus	Belgium
Belize	Benin
Bhutan	Bolivia
Bosnia and Herzegovina	Botswana
Brazil	Bulgaria
Burkina Faso	Burundi
Cambodia	Cameroon
Canada	Cape Verde
Central African Republic	Chad
Chile	China
Colombia	Comoros
Congo, Democratic Republic	Congo, Republic
Costa Rica	Cote d'Ivoire
Croatia	Cuba
Cyprus	Czech Republic
Denmark	Djibouti
Dominica	Dominican Republic
Ecuador	Egypt
El Salvador	Equatorial Guinea
Eritrea	Estonia

Ethiopia
France
Gabon
Georgia
Ghana
Grenada
Guinea
Guyana
Honduras
Hungary
India
Iran
Ireland
Italy
Japan
Kazakhstan
Kiribati
Kyrgyzstan
Latvia
Lesotho
Libya
Luxembourg
Madagascar
Malaysia
Mali
Mauritania
Mexico
Mongolia
Morocco
Myanmar
Nepal
New Zealand
Niger
Norway
Pakistan
Papua New Guinea
Peru
Poland
Qatar
Russia
Saint Lucia
Samoa
Saudi Arabia
Serbia
Sierra Leone
Slovakia

Finland
FYR Macedonia
Gambia
Germany
Greece
Guatemala
Guinea-Bissau
Haiti
Hong Kong
Iceland
Indonesia
Iraq
Israel
Jamaica
Jordan
Kenya
Kuwait
Laos
Lebanon
Liberia
Lithuania
Macao
Malawi
Maldives
Malta
Mauritius
Moldova
Montenegro
Mozambique
Namibia
Netherlands
Nicaragua
Nigeria
Oman
Panama
Paraguay
Philippines
Portugal
Romania
Rwanda
Saint Vincent and the Grenadines
Sao Tome and Principe
Senegal
Seychelles
Singapore
Slovenia

Solomon Islands
South Africa
Spain
Sudan
Swaziland
Switzerland
Taiwan
Tanzania
Timor-Leste
Tonga
Tunisia
Turkmenistan
Ukraine
United Kingdom
USA
Vanuatu
Viet Nam
Zambia

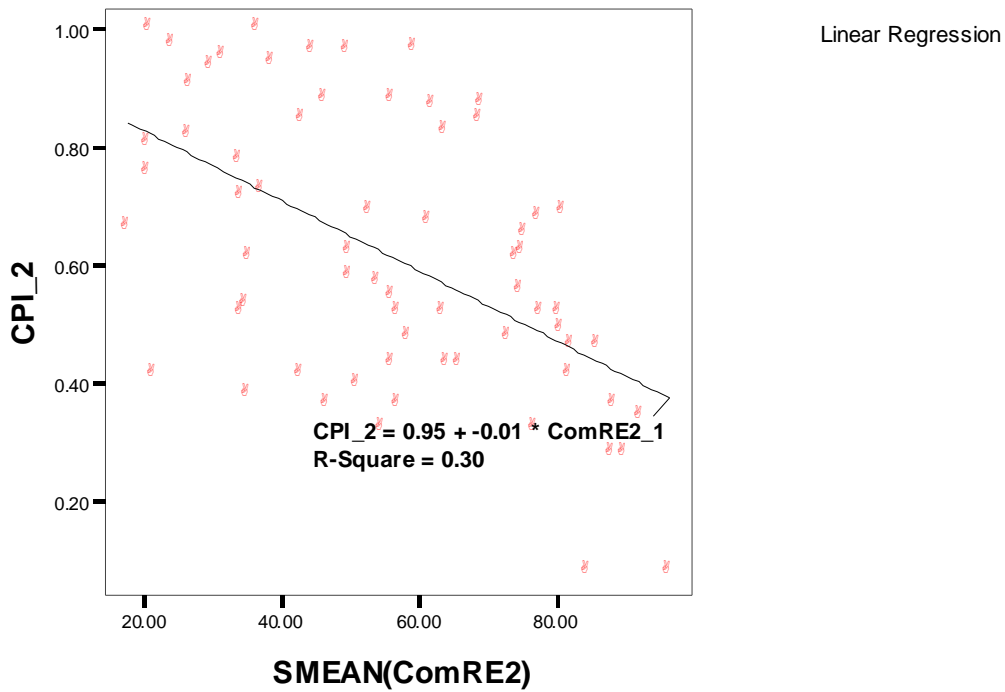
Somalia
South Korea
Sri Lanka
Suriname
Sweden
Syria
Tajikistan
Thailand
Togo
Trinidad and Tobago
Turkey
Uganda
United Arab Emirates
Uruguay
Uzbekistan
Venezuela
Yemen
Zimbabwe

APPENDIX C

THE FOLLOWING SCATTERPLOT GRAPHS ARE PROVIDED FOR REVIEW OF
BROAD RELATIONAL TENDENCIES

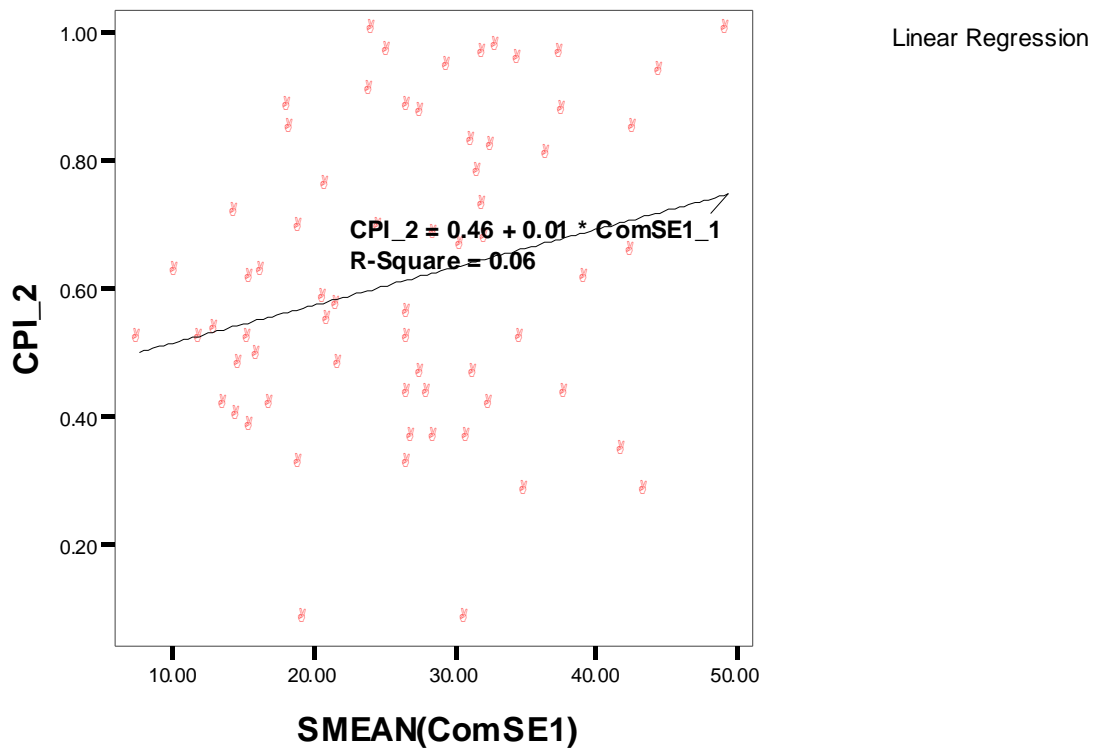
C.1 RELIGIOUS EXPRESSION AND CORRUPTION

Religious Expression as DV, Corruption as IV



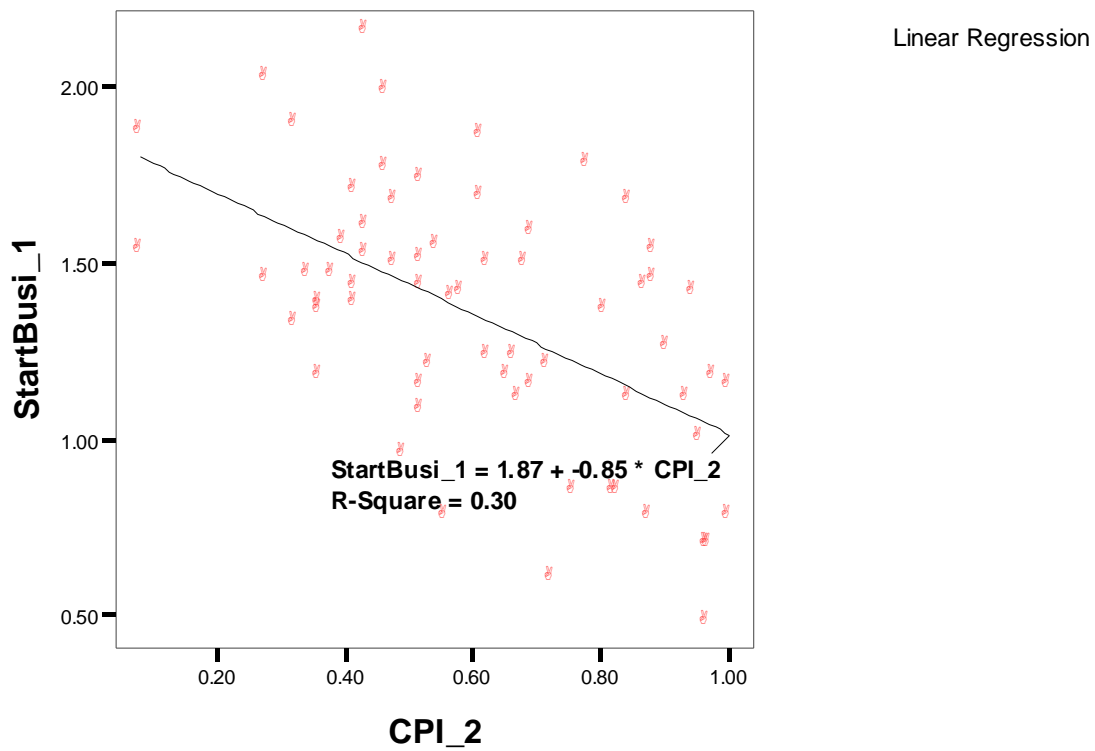
C.2 SPIRITUAL EXPRESSION AND CORRUPTION

Spiritual Expression as DV, Corruption as IV



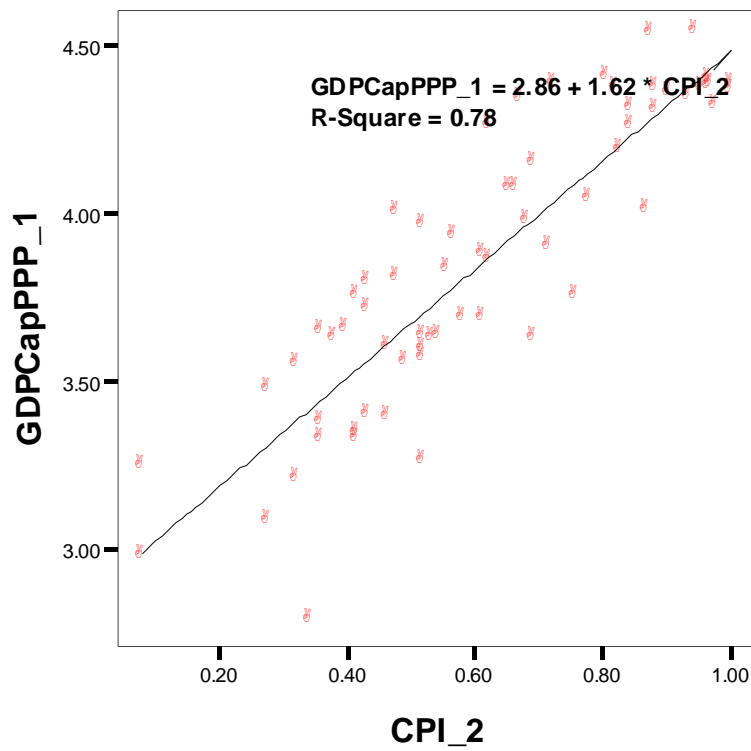
C.3 CORRUPTION AND BUSINESS STARTS

Corruption as DV, Business Starts as IV



C.4 CORRUPTION AND GDP/CAP (PPP)

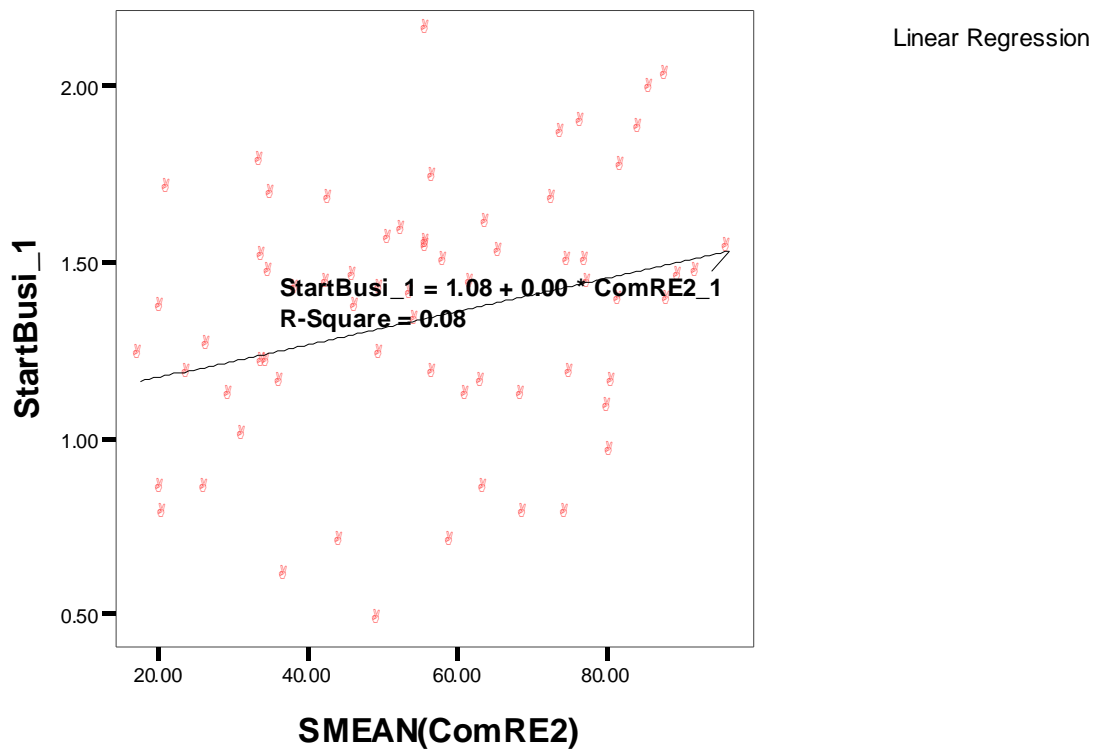
Corruption as DV, GDP/cap (PPP) as IV



Linear Regression

C.5 RELIGIOUS EXPRESSION AND BUSINESS STARTS

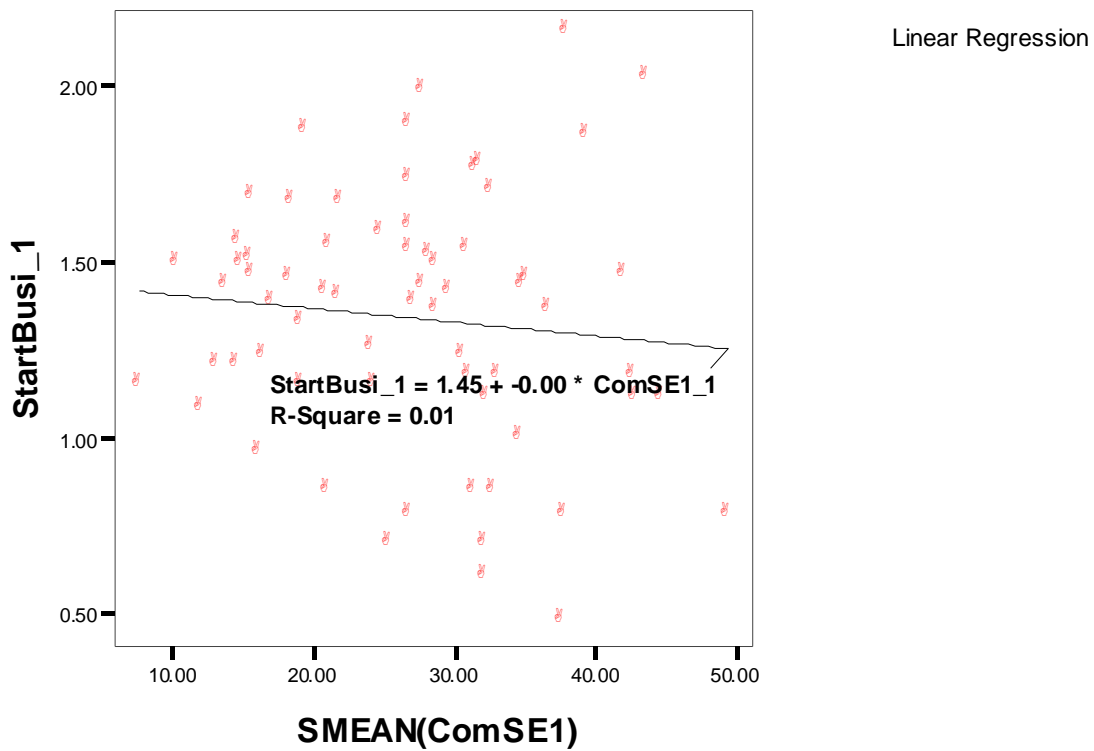
Religious Expression as DV, Business Starts as IV



This nearly-random relationship shows the isolation of business starts data from the primary independent variable religious expression.

C.6 SPIRITUAL EXPRESSION AND BUSINESS STARTS

Spiritual Expression as DV, Business Starts as IV



This nearly-random relationship shows the isolation of business starts data from the primary independent variable spiritual expression.

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